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Literary and Miscellaneous.

CHINA AND THE CHINESE REVOLUTION.

The progress of events which has given us so great interest in the commerce of the Pacific and the affairs of the east, elevates China to an important place in the regards of every American. Already has our commerce with her increased from about $5,000,000, at the beginning of the century, to over $14,000,000 in 1854. More than 20,000 Chinese have settled in a single one of our States. It is difficult to forsee what influences may be exerted in their celestial home from those, as it were, neighbor regions which our people are fast occupying, almost from Russian America down to the central isthmus.

Our information concerning the Chinese empire has but just commenced. And though it is but a few years since anything was known with tolerable accuracy concerning it, now it draws the gaze of Christendom.

The few Chinese seen in the seaports of Europe and America are not a fair sample of the "Celestials." They should be seen as they are at home, if we would comprehend their nationality. We should see them walking in satin shoes, with white soles of paper, or floating through the streets in gowns of silk, with waving fans painted with extracts of poets two thousand years older than Chaucer, and from philosophers perhaps three thousand years prior to Lord Bacon. And when we see the Chinese gentlemen, we are told, we shall find them the "Yankees of the East;" that we shall be astonished at their refinement, intelligence, and enterprise; that they are gentlemen in their address, shrewd in driving a bargain, acute as diplomats, and possessed of an extensive and polished literature. *Nous verrons.*

For many centuries China was known to Europe only by vague traditions and antiquated descriptions. And the traditions concerning it only served to thicken the darkness in which the inquirer was wandering, and the descriptions given were vague and totally unworthy of confidence. Most of them were written for a penny a line, or to relieve a heated brain, or to excite national enterprise, and written by men who

had never travelled through any of those eastern lands. Even Marco Polo never entered China, and if Oliver Goldsmith had ever crossed the great wall, he would never have written "The Citizen of the World." It was by means of the Portugese navigators who succeeded Vasco de Gama that Europe first received any certain information of the situation, extent, and splendor of China. The sources of the information of our day concerning this vast portion of our globe are from ambassadors, exploring expeditions, under the patronage of enlightened governments, travellers, merchants, and, most of all, from the personal explorations and labors of Christian missionaries.

By glancing at this map, which is the best one I have been able to procure, and for which we are indebted to American missionaries, you will see that China extends from within 18° at the equator to 56° north latitude. Its breadth is 2,100 miles, and its length 3,350, or, according to some, 4,000 miles, that is, a length of 77° of longitude by a breadth of 40° of latitude. McCulloch estimates it at 5,300,000 square miles, others say 7,000,000.

The best authors agree in putting down the population at 400,000,000, or at about half of the human family. The form of the empire approaches a rectangle, and it is difficult to trace its boundaries, especially on the western frontier. The circuit of the whole empire is 12,550 miles, or about half the circumference of the globe. It is about one-third of the continent, and one-tenth of the habitable globe, and, next to Russia, is the largest empire that has ever existed on the earth. A moment's comparison may give us a more distinct idea of its size: Russia is nearly 6,000 miles in length, by an average breadth of only 1,500 miles, and measures 7,725,000 square miles, or one-seventh of the land of the globe. As it regards large portions of Russia, of the British possessions in Africa, India, and Australia, they are either absolutely uninhabitable, or incapable of supporting a very large population, while the greater part of China and of our own territory is susceptible of cultivation, and capable of subsisting a dense population. The Chinese territory is equal to all of the United States and Mexico, and, in extent of culture and population, far beyond them. The boundaries of the United States are so migratory, like those of the British empire in the east, that I cannot give the number of square miles belonging to either of them.

There are several great mountain ranges in the interior of China, and on its north and west boundaries, through which there are but few passes that would admit an army. The

empire may be divided into the mountainous country, the hilly country, and the great plain. The coasts are rocky, and indented with numerous harbors and mouths of rivers. Its mountains and hills are in several large districts, covered with immense forests of tall trees, and contain large beds of coal. The valleys and river banks are extremely fertile. Its numerous lakes, like its rivers, are filled with fish and birds. It has, I believe, all the animals of Europe, with the addition of the camel, lion, tiger, and elephant. The Bactrian, or two-humped camel, wanders wild over the sandy deserts of Mongolia. There are also numerous wild asses and horses in some parts of the empire. All the usual domestic animals, and a numerous class of wild fur animals, are found there. The fowls are exceedingly numerous, specimens of which are to be seen in this city, and its pheasants are of world-wide celebrity. Their geese, ducks, and fowls are the best disciplined in the world. It is said they all come home at night from the canals, rivers, and lakes at a given signal. Reptiles, fishes, and insects are in quantities immeasurable, but amply sufficient to feed and to punish the children of Sinim, as the genuine descendants of Adam. The flora of China is a field yet unexplored. You know that the *tea-plant* stands at the head of its botany. There are also three kinds of oranges, most delicious, which are said not to grow in any other country. Their fruit trees are exceedingly numerous. They have cinnamon, nutmegs, and white cabbage; onions, beans, turnips, and indigo. They have yams, sugar-cane, and bamboo; sarsaparilla, cloves, and camphor. They have potatoes, rhubarb, cotton, rice, flax, and mulberry. Agriculture receives the highest honors of the government. The emperor himself annually confers upon it the highest dignity and encouragement.

Its minerals are scarcely known to geologists; but it is certain that China abounds in tin and silver mines, coal, lead, and iron, copper, rock salt, topazes, jaspers, chalcedonies, and precious gems. Instruments and vessels of gold are found in their ancient tumuli. The art of mining is believed to have been in use among the Mongolians from a very remote age. The silver mines are believed to be abundant, but are not much worked. There are also gold mines in the country. Granite, porphyry, and various kinds of marble abounds, and is easily obtained. Chinese granite is used extensively in building houses in San Francisco. As miners, they are believed to be the most persevering and skilful in the world. It is said that about thirty thousand Chinese, chiefly miners, are already in California, and that a number are on their way to the Tennessee

iron-works. It is certain that as long ago as the days of Sir Stamford Raffles the Chinese were celebrated for their skill and success in mining. And even when Alexander the Great invaded Thibet and India the rich products of this part of Asia greatly excited the Greeks. And one of the most curious documents I have ever seen is the custom-house catalogue of articles of merchandise that had to pay duty at Alexandria when the Romans governed Egypt. Among these articles a number are recognised as the products of China. The revenues of this empire are variously stated, but it is believed they amount to upwards of three hundred millions of dollars, while our own is perhaps less than seventy millions.

THEIR ART AND INDUSTRY.—Their numerous canals are an astonishment to travellers, for their length and commodiousness. They are deep enough to carry large vessels at all seasons. The vessels are, however, dragged by men. Their banks are lined with stone quays. There is probably more miles of transit by canals in China than in all the rest of the world. Few works in any age or country can be mentioned in comparison with the *imperial canal*. The main trunk is 700 miles long, but by means of lakes and rivers connected with it goods and passengers have an inland transit across the country from Pekin to Canton, a distance of upwards of 1,600 miles, or about the distance from New Orleans to the Pacific ocean on our railroad route. There is also a communication, by means of this canal and its branches, from the capital to nearly every large town in the empire.

A portion of this canal was built in the seventh century, and the rest of it in the thirteenth century, under a grandson of Genghis-Khan. At one time 300,000 men were at work on it. It was made not only for the purpose of internal navigation, but also for draining some parts of the interior, and irrigating others. Its artificial level is sometimes twenty feet above the surface of the country. Its flood-gates, bridges, villages, and the cultivated fields that line its banks, have excited the liveliest admiration of all travellers. The plain of this canal is the most populous spot of the earth. The population is more than two-thirds of all Europe. This plain extends from the great wall north of Peking to the confluence of the great rivers Yeang-tze-Keang and Kaie-Kiang, containing more than 200,000 square miles, and is seven times as large as the garden of Europe, Lombardy, with which it may, in many respects, be favorably compared.

THE GREAT WALL.—It was to protect their fertile and populous valley on the north the *great wall* was built about two thou-

sand years ago, or two hundred years before Christ. This wall is carried over mountains, rivers, and valleys, to a distance of about fifteen hundred miles, which will probably be the length of the Opelousas railroad whon it reaches San Diego. This wall was built of earth, brick, and stone, with occasional terraces and towers. Its average height, according to Lord Macartney's embassy, is twenty feet. Dr. Bowring, of England, has made a curious calculation, which shows that if all the bricks, stones and masonry of Great Britain were gathered together, they would not be able to furnish materials enough for the wall of China, and that all the buildings in London put together would not make the towers and turrets which adorn it. From these stupendous works of the Chinese, we should learn that canals and roads across the Isthmus, and from the Mississippi to the Pacific are possible and practicable, and are an imperious necessity.

The architecture of China, like many of their habits and customs, is unique, differing from that of the rest of Asia and from Europe. They have numerous royal palaces, temples, bridges, dwelling houses, triumphal arches and sepulchres, which are built of bricks, scented woods, alabaster, marble, granite, porphyry, bamboo, and porcelain. And many of them are inlaid with ivory, copper, gold, silver, and mother-of-pearl, as were the palaces of Solomon and of Babylon and Ninevah, of Peru and Anahuac. Within the city of Peking alone there are said to be ten thousand temples, many of which are beautiful and magnificent. The great porcelain tower is at Nankin. It is nine stories high. A pagoda has been built at Kew, in England, by Sir William Chambers, to represent it. Throughout the country many triumphal arches are seen. And although Confucius strictly prohibited idols, or the worship of anything but the Supreme Being, yet there are more than one thousand five hundred and sixty temples in the empire dedicated to him, and sixty-two thousand animals, pigs and rabbits, annually sacrificed to his memory.

I cannot close even this brief notice of their industrial arts without reminding you that at least three of the most important inventions or discoveries of our race were known to the "Sons of Ham" or of the "land of Sinim," long before they were known to Europe. I mean the art of printing, the composition of gunpowder, and the magnetic compass. And to these must be added the two remarkable manufactures, of which they are the unquestioned inventors, the making of silk and of porcelain; the art of the latter remains to this day a secret, I believe, known only to the Chinese. It is now con-

sidered certain that the art of printing was practised by the Chinese in the tenth century. And though they did not apply powder to guns, yet it is doubtless true that they made powder from sulphur, saltpetre, and willow charcoal, and used it in fire-works, fire-crackers, and the like, for centuries before it was applied to fire arms in Europe. And as early as 121 of our era, the magnetic compass, or the attractive power of the loadstone, and its property of communicating polarity to iron is distinctly described in a Chinese dictionary finished in that year.

The literature and peculiar habits of the Chinese I have not time to consider. The religion of the Mongolians, Mantchurians, and all the nations of Thibet is that of the Grand Llama, who is their Pope or Supreme Patriarch. The prevailing religion of China proper is that of Confucius. This is the state religion. The religion of Foh or Budha has also numerous followers. Budhism was introduced into China from Hindostan about the begining of our era. A very large portion of the people hold to a system of manifold superstitions called *Powism*. They are full of the terrible rites and superstitions of idolatry. They worship ghosts and animals, and believe in the transmigration of souls. Infanticide is common, and they are even charged with cannibalism. Their idols are everywhere. In their houses, in their streets, in the market places and theatres. The ignorant and the learned are idolaters. And the consequent moral degradation of the people is appalling. The great want of China for centuries has been a pure Christianity. The *government* is despotic, and the Mandarins have ruled with "a red-hot rod of iron." All law proceedings are from written pleadings. Questions in court are put by torture. Among them however, are numerous public institutions. In Shanghai is the "Hall of Universal Benevolence," which takes care of strangers and buries poor people. They have also hospitals and free schools, in which the children are clothed as well as educated. Their school system is simple and well arranged. It is said that one of the causes that has led to the present revolution was the sale of degrees in their schools to such as had more money than brains. This was particularly obnoxious, as government offices are bestowed only on such as have passed by regular degrees through their schools. To resist this corruption and with the avowed purpose of making Christianity the religion of the empire, a secret society was formed among the young men, out of which has grown the present remarkable revolution of China. Time allows me to say but little of—

THE ORIGIN OF THE CHINESE, and even if this were the proper place, we have not the authorities at hand for such an investigation. Indeed, I regret to say, that, so far as I am acquainted with the libraries of the city, they do not furnish the scholar materials for such a discussion. I hope this city of bales and hogsheads, and ships and steamers, will not be many years without libraries worthy of its revenues. I may not, then, now go into any detail of the proofs which go to show, that the Noah of the Hebrews is the Fohi of the Chinese Chronicles. While Shem, Ham, and Japhet went forth to Asia, Africa, and Europe, Noah and the rest of his family went eastward, and finally rested in the plains of China. Man has ever been a migratory animal, and in the early ages pre-eminently so. The tombs of nations have almost always been as distant in space from their cradles as remote in time. The lingual roots and dialects, literature, policy, history, and traditions of China, as far as they prove anything reliable on the subject, go to prove the identity of Fohi with Noah. This is the opinion of the learned Calmet, and of the editor of his works, Dr. Taylor, and of Dr. Morrison, and in fact of almost every learned man with a reputation worthy of preservation, who has written on the origin and emigrations of the races of mankind. One of our own missionaries, (Rev. W. Speer,) formerly in China, but now laboring among the emigrant Chinese in San Francisco—a scholar, and a man of fine abilities, who has published some admirable lectures on China—says:

"The Chinese of our day are from an empire as ancient as that of Ninevah, as civilized as that of Egypt, as wealthy, and as controlling in the politics of the globe, as Great Britain—one that has stood from an early period after the deluge almost unknown to the fickle history of all the nations with which we have been acquainted, but ever augmenting, till it is now the most populous that has ever existed, and covers an area greater by one-half than the whole continent of Europe."—*Chinese and California*, 1854, *page* 4.

There is no doubt but the founding of the Chinese empire dates back near to the dispersion from Babel. I am aware that it has been said, that China was unknown to the writers of the Bible, and that the inference made from this statement is, that the Chinese are not descendants of Adam and Noah, but grew up on their own mountain slopes and river banks as their tea plants and frogs do; and a second inference from this learned assumption is against the Christian doctrine of the fall of man, and the completeness of the remedial scheme for his recovery through the mediation of the Son of God. I design not now to dwell on these points. It is sufficient to deny the truth of the assumed statement, and the correctness of the in-

ferences even if the statement were true. The most learned men, for centuries past, as well as those of our own day, believe that China was known to the ancients under the various names of "Sera," "Serica," "Sena," "Jin," "Djenia," "Sinae," "Tzinistae," "Sin," "Tchin." It is a fact, susceptible of the clearest proof, that these names for China were used for hundreds of years before our era, and for centuries after by the Malays, Hindoos, Persians, Arabians, and other nations of Asia. Mahommedan travelers in the ninth century called China "Sin." This name "Sin" is the same word used in Isaiah, as learned men believe, for China. It is pronounced by the persians and Arabins *Tchin*. Maltebrun says that the "'Sin' of the Bible was the ancient generic name for all the nations of Thibet, China, and India, east of the Ganges."—(42d Book.) The inhabitants of India called the country east of them and south of Russia "Cathay" and "Chin;" and it was not till the seventeenth century, that it was ascertained that Cathay was China, and that the great city of Cambalu was identical with Peking. Several learned men have endeavored to prove that even the Greeks traded, through the Arabians, with China, under the name of "Sinim," and that the life of that trade was linen, cotton, and silk.

CHINA AND AMERICA.—It may be a more interesting point for you to consider the claims of the Chinese as the discoverers of this continent, and the present growing relationship between them and us. The Chinese, you are aware, dispute with the Jews, the Phenicians, the Welsh, the Irish, the Northmen, the Kamschatkans, and the Japanese the honor of having discovered and settled this new world. And when the consanguinity of oriental nations with its aborigines, and the teachings of their own legends, and the manners and institutions of the races found on this continent by the discoverers from Spain are well considered, it is believed there will remain but little doubt that the tribes existing on this continent, at the time of its discovery, were of Asiatic origin. The progenitors of our aborigines doubtless were adventurers and navigators of the rude maritime population of the Asiatic coasts, cast upon these shores by currents and winds; or borne hither, as Tartar traditions relate, upon cakes of ice. Abundant testimony could be given to prove that Orientals could have reached this continent thousands of years before any of the western nations discovered it. "A knowledge," says Redfield, "of the winds and currents of the Pacific ocean, will, I am convinced, serve to remove all mystery and all doubt from the once vexed question of the first peo-

pling of its islands from the Asiatic continent, and in spite of the long urged objection of the opposition of the trade winds." It is but a short time since a Japanese junk was drifted all the way to the Sandwich Islands, with its surviving crew. And near the equator, the north-west monsoon of the Indian and Pacific oceans, for a portion of the year, furnish an additional facility for drifting from the Indian ocean to the American coast. Repeated and very recent instances prove that Chinese and Japanese are drifted in safety to this continent from their own shores and seas. Many learned men agree in believing that the resemblances between the manners, laws, arts, and institutions of the Chinese, and of the Peruvians and Aztecs, are too numerous, striking, and peculiar to be the effect of chance. To this day the newly arrived Chinaman and the Indian of the forest are the same in complexion. Nor is there wanting a remarkable resemblance between their dialects. The Chinese and the Toltec or Aztec tongues are believed, by eminent linguists, to have strong affinities. [Here Dr. Scott introduced eloquent and pertinent quotations from Humboldt, Maltebrun, De Guignes, Scherer, Sir Charles Lyell, Saint Augustine, Bradford, and Prescott, which we have not room to insert, to prove the extreme probability, if not absolute certainty, that very old relations existed between Asia and America. He said that all the traditions of the aborigines of this continent, the traditions of Tartary and the historians of China favored this opinion. He believed that the Fusang of Chinese historians of the southern dynasty was North America. He expressed a hope that the analogies, resemblances and contrasts between China and Japan, on the one side, and of Peru and Mexico, on the other, would engage the attention of some gentleman fond of historical studies, and be presented before the Mechanics' Institute. He ventured the prediction, that if ever the *secret* of the origin, and time and the people by whom this continent was first discovered and populated, is brought to light by positive facts, it will be from historic records not yet discovered, or if known, not read, among oriental nations, or from the ruins of Mexico, Central America, and Peru. And here he recommended young gentleman and ladies especially to study history. The works of our countrymen, Irving, Bancroft, and Prescott are really more interesting and far more useful than any novel of the day. Truth is more entertaining than fiction. Dr. Scott also said, that in the present movement on this continent to the Pacific, and the growth of commercial and social relations with the "Flowery Orient," he saw nothing but a renewal of an acquaintance

that was so old that its existance had been forgotten. And that this was perhaps an illustration of the saying of Holy Writ, that there is nothing new under the sun, for that which is, is what has been—or perhaps this is a proof of the doctrine of philosophers, about ever recurring circles and returning correspondent cycles. And that, therefore, the manifest destiny polarity, that draws us onward to the east, through the gateway of the furthest west, is the philosophical necessity that Providence has laid upon us, to work out the evolutions and events of our cycle.]

THE CHINESE REVOLUTION.—It is believed that Christianity was first introduced into China by Syrian converts in the beginning of the seventh century. Some, indeed, believe that the Gospel was preached in that country by some of the Apostles or by their immediate successors. In modern times, learned Frenchmen have had the honor of opening up the treasures of China to the literati of Europe. Klaproth published, in 1832, a geography of Corea, Loochoo, and the Bonin Islands. Mission stations, and schools, and printing presses, were established as near to China as they could be. Able and pious men set themselves to the task of learning the idegraphic language of this empire, and succeeded. Marshman, Medhurst, and Morrison, prepared grammars and dictionaries, and translated tracts, and, finally, the Holy Scriptures, at Malacca, Serampore, Singapore, and other ports where facilities were enjoyed for learning the language and having intercourse with the country. And it is truly astonishing how much has been done by a few men in a few years in acquiring the language of China, and the preparation of a Christian literature for it. And it is with some satisfaction that in this field we see American energy and intelligence in honorable rivalry with that of Great Britain. The profoundest essay, it is allowed, that has yet been written on Chinese philosophy was written by Dr. Peter Duponceau, President of the American Philosophical Society in Philadelphia; the ablest and soundest essays on the translation of religious terms into Chinese have been written by Rev. Dr. Boone, American missionary at Shanghai; the clearest and by far the most complete and able work on China that has ever appeared, is the work of an American printer, missionary at Canton—I mean the book called the "Middle Kingdom," by S. W. Williams. The best commentaries on the Bible and treatises on educational and religious subjects printed in Chinese, have been written by Americans, and about two-thirds of the entire number of printers, teachers, and missionaries, laboring for

the diffusion of true religion in that empire are from this country. And the fastest steamer that now is, or ever has been, in Chinese waters, is from a New York ship-yard. These facts are not now named in the tone of an extravagant eulogium. They are named to make us feel how great is our responsibility, and to excite our gratitude to Providence for calling us to put forth our exertions to introduce civilization, commerce, and science, with the Gospel, to so many millions of our race.

In an age of extraordinary excitement, we see the finger of God visible in two great movements, of which Constantinople is the centre of one and China of the other. Stupendous occurrences are actually taking place that startle us with the importance of the great moral crisis that seems to be at hand. Our globe is no longer the scene of commonplace, prosaic events, but has become the stage of marvels. The gates of China, hermetically sealed for thousands of years, are opened by no mere mortal hand; but not before the same hand had peopled the solitudes of the great southern ocean, and cities and nations with the language and commerce, the literature, the religion and the institutions of liberty had arisen to meet the salutations of the celestial empire with responsive salaams. Suddenly a new nation, as it were, has sprung up on the opposite shore of the ocean that washes Chinese territory; and thither, as if drawn by a golden spell, or sent on some special mission by Providence, are gathered the surplus hosts of the world.

The revolution going on in China is attracting to itself the fixed and earnest gaze of the civilized world, and of no part of the world more than of the United States. And it would be surprising if it were otherwise. In the time of its occurrence, its antecedents, its accompaniments, and in its suddenness and yet maturity of preparation, in its exciting causes, and in extent, and in moral grandeur, and in its social and political and religious results, not merely upon that vast empire, but upon all the ancient despotisms and effete superstitions of the East, it has no historic parallel. It is astonishing that a nation so isolated, so stereotyped, so superstitious, so old-fogyish so petrified, should have burst its own cerements and effected its own resurrection. This is what philosophers have said never could take place. This is the moral miracle of the nineteenth century, and indeed of our race. And in this fact we see proof of the infinite benevolence of a Supreme Providence. This fact should confirm our faith in the prophecies of the holy seers of the Bible, and of the martyred patriots of

former ages, who died triumphing in the glorious hopes of the world's regeneration. After some inevitable convulsions, the overthrow of the Manchoos will open up a full trade for Europe and America, with about half the population of the globe, with which now they have but a fractional intercourse. The Chinese, we are told, are industrious. Their resources are immense, and among them trade is universal, and commercial reputation a proverb. If a merchant does not square up all his accounts on the last day of the year, it is said, he has no credit for the next year. There is scarcely an article of our machinery or manufacture but will be immediately called for over the plains and hills, and along the river banks of China. With judicious energy, I doubt not but that in a few years our exports to that country, instead of being, as now, some five or eight millions annually, may reach one hundred millions of dollars. And now, at the very moment we are expecting Japan to open her doors to civilization, the death-blow is given to the greatest of Asiatic despotisms, and our institutions are invited in. The blindness of old-fogyism itself cannot help discerning the incalculable fruits which these events are destined to produce on the world. The wildest speculations on their extent will probably fall short of the truth.

Christianity, that has been germinating for many years in Sabbath-schools and printing-offices, has at last burst forth into the light. It was but yesterday we read how the aged Roman rent his beard with grief when he saw the broken statues of Jupiter and Diana. What, then, do you imagine are the feelings of the proud Chinaman as he sees his idols, headless and disgraced, floating down the Yeang-tse-Keang? In the womb of this Chinese revolution are borne the overthrow of the reigning dynasty, of idolatry, and the introduction of Christianity, and with this freedom of conscience, morality, social liberty, and commercial prosperity. The door is virtually open to all kinds of influences, political, scientific, and religious. Free thought and free grace may now flow in a mighty current upon China. Accordingly, the London Missionary Society have resolved to send one million of Testaments to China as fast as they can be printed and shipped. A corresponding zeal, I hope, will be manifested in America. As the conversion of the Turks would destroy Mohammedanism, and as Mr. Layard tells us the American missionaries have already done a great work in the Ottoman Empire, it may yet be true, as Lamartine once smartly said, that "Turkey would be destroyed for the want of Turks," and in that

case, what will the great Czar do? So China is about to be overturned for the want of Chinamen.

China, as I have said, has been a great petrification—an old geological formation, in which we see the enlightenment of the world thousands of years since. For centuries she was like the self-taught hermit, who fancied himself possessed of all the knowledge and strength of the world. They called their country the centre of the universe, and all other people outside barbarians. She was cramped and fettered like the feet of her pretty women, living, but without growth—and yet within this huge statue of petrified exterior there throbbed, as we find to our astonishment, the heart of a great nation, and along its veins flowed the blood of four hundred millions, that may yet be republican Christians. There may be, there will be, blunders, failures, and back sets, in the present revolution. Casper Hauser did not walk when first removed from his dark cell. We cannot expect the Chinese to have a perfect government or a perfect Christianity at once. But the right beginning has been made; and the influence of this beginning on Asia is beyond calculation. Suppose the millions of China enlightened republicans, and what would be the effect on the Eastern continent? There are already two great batteries playing upon the strong fortresses of ignorance, despotism, and paganism. One is in Europe and the other America. Their shots are, however, necessarily long shots. Nevertheless, millions on millions of explosive shells have been already thrown amidst the enemies' works. Our mounted batteries that have the longest sweep, are our postal communications, by which letters, remittances, statistics of growth and prosperity, and cheering words, are sent to those that sit in darkness, and grind in the mills of tyranny. Our State papers, printing presses, secular and missionary, and our metallic wires, and merchant ships, are batteries, that throw effective shells into their arsenals which are daily exploding. How, then, will the thrones and palaces of effete superstitions and crushing tyrannies crumble and fall to pieces throughout Asia and Eastern Europe, when a new battery, manned by an overwhelming force, shall be erected in China, and play upon them near at hand and upon their unguarded side!

The Chinese, as we have seen, are immensely superior to all the inhabitants of the Indian archipelago, except the Japanese. The distant East, as far back as our traditions go, has always been regarded with a most covetous look. The Arabians, Persians, Greeks, Romans, English, Dutch, French, Portuguese, and Russians, have all labored to establish a

flourishing trade with Asia and China. And now that Providence has opened up a way to the "Celestial Empire," not across the Isthmus of Suez, nor by the Persian Gulf, nor around the terrible African Cape, but across our own continent, and from our own Pacific Tyre, a nearer, easier, cheaper, safer, and far more advantageous, than any that has ever been known to Europe, we must go forward, and do our duty to ourselves and mankind. Were I so fortunate as to reach the ear of our minister to China, or of our government, I should plead most earnestly that our trade with the East should be encouraged liberally and promptly. Our steamers and clippers should at once do the carrying of mails and passengers from Europe to Australia, Asia, and China. Trade with the East, from the days of the great Pharaohs, has enriched the emporiums of Central and Western Asia, and of Europe. We must have a large share of this trade. Is it not for the want of it that Palmyra, Petræ, Baalbeck, and Tyre, are in ruins, and many of the emporiums of fashion and power of a former age "have gone to jungle," and cities once civilized and powerful are "like Carthage, mere nests of banditti." Is it not for the want of commerce, which calls forth the labors of the farmer, the trader, and the mechanic, that Athens, Rome, Genoa, and Venice, have lost their glory? Any one who has visited the Chinese Museum of Paris needs not to be informed of the excellence of their arts. In my mind there is not a doubt but that our enterprising cities may now enrich themselves until they shall surpass the emporiums of the East and of Europe by trading with Asia and the islands of the Pacific. They have opportunities that have never been enjoyed before. The porcelain of Kiang-si may be wrought out of the quartz of the Alleghany, the Cordilleras, and the Sierra Nevada. And as the silks of Persia and Turkey are now woven in Vienna, Paris, and London, so will the raw material and skill of Canton be transferred to the factories of Georgia, Alabama, Lowell, and Pittsburg. The Chinese are apt scholars and artizans. They soon learn our art of ship-building. Some of them, in our ship-yards, and in the service of our mail-steamship companies, have already acquired the art of building vessels and of managing steamers. There is stationed at Canton a fine man-of-war, built for the Chinese government, by a native, who served his time as an apprentice to an American mechanic. There are a few things that we want in order to our true national independence and complete prosperity. We must learn to *think* for ourselves, and cut adrift from all European standards, formulas, and

precepts. There is no model for us in Europe. We must cease to be the echo of our mother country. We must have complete command of the Gulf at our door. We must have interoceanic communications between the great oceans on our West and East. Our trade (export and import) with the Mediterranean should be direct, and without *salvage* to Europeans, or even to northern cities, and to perfect our commerce and to complete the means of our national defence, we must have a railroad from the Mississippi to the Pacific, and steamships from our possessions on that ocean to every part of South America, Asia, Oceanica, Australia, Japan, and China. Upwards of four thousand years ago the two civivilizations of the human race, like Abraham and Lot, separated on the plains of Asia, and they have travelled in opposite directions around the world, until they are now meeting again on the coasts and islands of the Pacific ocean. The re-discovery of this continent upwards of 350 years ago, and the organization here of a powerful nation with all the appliances of art and civilization, and the highest forms and institutions of liberty and religion, and the growth of an immense whale fishing marine in the Pacific, a marine that exceeds that of all other nations, and then the re-discovery of gold where the proud Castilian could not find it, and the consequent precipitation of thousands of chivalrous spirits upon the Pacific shore, and the unparalleled growth of a nation whose vessels, combined with the trade already existing from the Atlantic cities to China, and with the whale fisheries, make at once the Pacific an American ocean. Thus has Providence,

"Ever working on the social plan,"

made events, revolutions, discoveries and inventions preliminary to the sublime result now so distinctly in view, that a prophet's ken is not required to see it, all take place in their time and after their kind, so as most effectually to work out, at last, the restoration of the *unity* of the human family, and establish the reign of the liberty, equality and fraternity, not of infidel Red Republicans and disorganizing Socialists, but of HIM "who spake as never did man;" of liberty, equality and fraternity, issuing, not from the dreaming poets and novelists of Paris as the echoing centre of Europe, but from Jerusalem, the real centre of the universe.

THE AFRICAN SLAVE TRADE.*

Speculative philanthropy is our especial horror. We turn from it with the same oppugnancy that we do from Mawworm. It is part and parcel of that artificial and disgusting character—the embodied *ism* of our day and generation. It is the sentimentalism of Sterne that weeps over a dead ass, yet suffers a mother to starve. It has the tenacity of all mulish and ignorant things. Emerson well remarks that a foolish consistency is the hobgoblin of little minds, yet none more than his disciples in abolitionism—the *beau ideal* of tongue-philanthropy—so realize the truth of Moore's couplet—

> "Faith—fanatic faith—once wedded fast
> To some dear falsehood, hugs it to the last!"

The morbid sensibility evinced in the northern section of our Union upon the subject of slavery is its idiosyncrasy. That it had no type at a previous epoch in that enlightened part of our confederacy, is shown by the debates on the Federal Constitution, and the substantial fact that even as late as 1808 the citizens of Rhode Island owned *fifty-nine slavers*, trading rum on the coast of Africa for negroes! Only two less than Charleston, and eleven less than the West India emancipator, Mr. John Bull.†

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* *Captain Canot, or Twenty Years of an African Slaver;* being an account of his career and adventures on the coast, in the interior, on ship-board, and in the West Indies. Written out and edited from the Captain's journals, memoranda, and conversations. By BRANTZ MAYER. New York: D. Appleton & Co.

† In the compendium of the United States census, recently issued, are some very interesting tables on Slaves and the Slave Trade. A portion of the remarks we extract:—

"Slavery, which had existed in all of the nations of antiquity and throughout Europe during the middle ages, was introduced at an early day into the colonies. The first introduction of African slaves was in 1620, by a Dutch vessel from Africa to Virginia. Mr. Carey, of Pennsylvania, in his work upon the Slave Trade, says: 'the trade in negro slaves to the American colonies was too small before 1753 to attract attention.' In that year Macpherson ('*Annals of Commerce*') says, five hundred and eleven were imported into Charleston, and in 1765–1766 those imported into Georgia (from their valuation) could not have exceeded 1,482. From 1783 to 1787 the British West Indies exported to the colonies 1,392, nearly 300 per annum. These West Indies were then the entrepot of the trade, and though they received nearly 20,000 (*Macpherson*) in the period above named, they sent to the colonies but that small number, proving the demand could not have been large. After a close argument from the ratio of increase since the first census, Mr. Carey is enabled to recur back and compute the population at earlier periods, separating the native born from those derived

Surely our Puritan *confreres* will admit the maxim—*damnum absque injuria.**

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from importations. Setting out with the fact that the *slaves* (blacks) numbered 55,850 in 1714, he finds that 30,000 of these were brought from Africa...30,000

Importations	between	1715	and	1750.....90,000
"	"	1751	"	1760.....35,000
"	"	1761	"	1770.....74,000
"	"	1771	"	1790.....34,000
"	"	1790	"	1808.....70,000

Total number imported.....333,000

The number since 1790 is evidently too small. Charleston alone, in the four years 1804, 1805, 1806, and 1807, imported 39,075. Making, therefore, a correction for such under-estimate, and a very liberal increase to Mr. Carey's figures, the whole number of Africans at all times imported into the United States would not exceed 375,000 or 400,000.

Thus, in the United States, the number of Africans and their descendants is nearly eight or ten to one of those that were imported, whilst in the British West Indies there are not two persons remaining for every five of the imported, and their descendants. This is seen from the following:—Imported into Jamaica previously to 1817, 700,000 negroes, of whom and their descendants but 311,000 remained after 178 years to be emancipated in 1833. In the whole British West Indies—imported 1,700,000, of whom and their descendants 660,000 remained for emancipation.—(*Carey.*)

The Continental Congress of 1774 resolved to discontinue the Slave Trade, in which resolution they were anticipated by the conventions of delegates of Virginia and North Carolina. In 1789, the convention to frame the federal constitution looked to the abolition of the traffic in 1808. On the 2d of March, 1807, Congress passed an act against importations of Africans into the United States after January 1, 1808. An act in Great Britain in 1807 also made the slave trade unlawful. Denmark forbid the introduction of African slaves into her colonies after 1804. The congress of Vienna, in 1815, pronounced for the abolition of the trade. France abolished it in 1817, and also Spain, but the acts were to take effect after 1820. Portugal abolished it in 1818. The slave trade, in these instances, continued in despite of the abolition. The average number of slaves, according to the report of the London Slave Trade Committee, exported from the coast of Africa, averaged 85,000 per annum, from 1798 to 1805; and from 1835 to 1840 there was a total of 135,810; in 1846 and 1847, the import was 84,000 per annum. Between 1840 and 1847, 249,800 were taken to Brazil, and 52,027 into the Spanish colonies, &c.—(See Report of Select Committee of the House of Commons, 1850.) In Pennsylvania, slavery was abolished in 1780. In New Jersey, it was provisionally abolished in 1784; all children born of a slave after 1804 are made free in 1820. In Massachusetts, it was declared after the revolution that slavery was virtually abolished by their constitution, (1780.) In 1784 and 1797, Connecticut provided for a gradual extinction of slavery. In Rhode Island, after 1784, no person could be *born* a slave. The ordinance of 1787 forbid slavery in the territory northwest of the Ohio, but the census shows that the injunction was disobeyed. The constitutions of Vermont and New Hampshire, respectively, abolished slavery. In New York it was provisionally abolished in 1799, twenty-eight years' ownership being allowed in slaves born after that date, and in 1817 it was enacted that slavery was not to exist after ten years, or 1827."

The slave population in the United States was in 1790, 697,897; in 1800, 893,041; 1810,1,191,364; 1820, 1,538,038; 1830, 2,009,043; 1850, 3,204,313. Of the last year named, 2,957,657 were of black or of unmixed African descent, and 246,656 were mulatto—a commentary of itself on anti-slavery!

* Since writing the above, we find the following *jeu d'esprit* travelling the rounds of the newspapers:—"Some thirty years ago, the good people of Rhode Island were shocked and outraged on finding that a blacksmith was at work on the Sabbath. The sound of his hammer and the reverberations of his anvil sorely annoyed the shepherd of the village flock, and the more so as the blacksmith was

But we are admonished that our task is not a disquisition but a review. If we do not mistake the portents of the times, however, we shall have abundance of the former on this subject, and the thrusts and parry will employ some of the most brilliant intellects of the country. Meanwhile, we will quote Captain Canot.

If we did not know that Mr. Mayer was a gentleman whose veracity is as unquestionable as his talents, nay, had he not vouched for the authenticity of the record as set forth in this volume, and stated as he did, in a letter to the editors of the *National Intelligencer*, that he has not exaggerated a line of Captain Canot's journal, and, moreover, believes it literally true, we should have read this thrilling narrative as one of the novels of the day, which are now thick as leaves in Vallambrosa. But with the evidences of its genuineness, and the absorbing interest the topic awakens in the present disordered state of public feeling, we perused it as a faithful chronicle of events in the career of a daring and intelligent individual, whose chequered existence would form the staple of fifty modern romances. Indeed, the multiplication of those time-triflers, we must say in passing, is becoming an alarming and broadcast evil, reminding us of Swift's *Three Duties of Man*, or of that epoch in Germany when it was necessary for every gentleman, or man who aspired to that title, to write a book.

Whether human nature is better off with sunshine, *cassava*, and concubinage—which are the sole elements of African life —than with the comforts and restraints of civilization, is not so readily determined by closet-philanthropists of the Mrs. Jellyby school, as by the more logical method of comparison. Unmixed with Caucasian blood, or debarred the light of Christianity and civilization, the negro has closer affinities with the brute in all his instincts than any other of the human race. Left to himself as he has been by admitted injudicious British policy, we behold the animal in all his pristine characteristics —lazy, debauched, incapable as an idiot of self-government or forethought, cruel and treacherous as an ape. We perceive in Hayti, also, and its sanguinary history, the truth of the observation of Tacitus, that to be elated in prosperity, or depressed in adversity, is the genius of savage nations. As well may the leopard change his spots as the African his

a pillar of the church, and a bright and shining light of the congregation. Of course, he was "churched"—taken to task. In defence of himself, he stated that one of the slavers, in getting ready to go to sea, had found herself deficient in the handcuffs, and he was obliged to work all of Sunday to supply her. The good shepherd of the flock decided that it was a work of necessity, justified by the gospel, and Deacon H—— was excused."

nature, without the guiding hand of the white man's intelligence. Let us draw a few graphic pictures from the experience of one who for twenty years watched closely their native wilds, the infinite abyss of ignorance and barbarity in which they had sunk, and compare it with the most degraded position they hold in the western hemisphere. Is not any degree of servitude better than such awful depravity as the following:—

"At Ayndah I found the natives addicted to a very grovelling species of idolatry. It was their belief that the Good as well as the Evil Spirit existed in living Iguanas. In the home of the *man fuca*, with whom I dwelt, several of these animals were constantly fed and cherished as *dii penates*. Nor was any one allowed to interfere with their freedom, or to harm them when they grew insufferably offensive. The death of one of these crawling deities is considered a calamity in the household, and grief for the reptile becomes as great as for a departed parent."—*Captain Canot*, p. 266.

We doubt if even Mrs. Stowe has given a parallel to this in her wonderful *story!* We are dubious, too, that even she or her coadjutors ever saw or read of atrocities in the South equal to the following of the untamed African, as witnessed by our author. A *royal* fight between two native cousins is thus concluded. Speaking of the victors:—

"By degrees the warriors dropped in around their chieftain. A *palaver-house*, immediately in front of my quarters, was the general rendezvous, and scarcely a *bushman* appeared without the body of some maimed and bleeding victim. The mangled but living captives were tumbled on a heap in the centre, and soon every avenue to the square was crowded with exulting savages. Rum was brought forth in abundance for the chiefs. Presently, slowly approaching from a distance, I heard the drums, horns, and war-bells; and in less than fifteen minutes a procession of women, whose naked limbs were smeared with chalk and ochre, poured into the palaver-house to join the beastly rites. Each of these devils was armed with a knife, and bore in her hand some cannibal trophy. Jen-Ken's (the chief's) wife, a corpulent wench of forty-five, dragged along the ground, by a single limb, *the slimy corpse of an infant ripped alive from its mother's womb*. As her eyes met those of her husband, the two fiends yelled forth a shout of mutual joy, while the lifeless babe was tossed in the air and caught as it descended on the point of a spear. Then came the *refreshment* in the shape of rum, powder, and blood, which was quaffed by the brutes till they reeled off, with linked hands, in a wild dance around the pile of victims. As the women leaped and sang, the men applauded and encouraged. Soon the ring was broken, and with a yell each female leaped on the body of a wounded prisoner, and commenced the final sacrifice with the mockery of lascivious embraces! In my wanderings in African forests, I have often seen the tiger pounce upon its prey, and with instinctive thirst satiate its appetite for blood and abandon the drained corpse, but these African negresses were neither as decent nor as merciful as the beast of the wilderness. Their malignant pleasure seemed to consist in the invention of tortures that would agonize but not slay. There was a devilish spell in the tragic scene that fascinated my eyes to the spot. A slow, lingering, tormenting mutilation was practiced on the living, as well as on the dead; and in every instance the brutality of the women exceeded that of the men. I cannot picture the hellish joy with which they passed from body to body, digging out eyes, wrenching off lips, tearing the ears, and slicing the flesh from the quivering bones, while the queen of the harpies crept amid the butchery, gathering the brains from each severed skull, as a *bonne bouche* for the approaching feast!

"After the last victim yielded his life, it did not require long to kindle a fire, produce the requisite utensils, and fill the air with the odor of *human flesh*. Yet, before the various messes were half broiled, every mouth was tearing the dainty

morsels with shouts of joy, denoting the combined satisfaction of revenge and appetite! In the midst of this appalling scene, I heard a fresh cry of exultation, as a pole was borne into the apartment, on which was impaled the living body of the conquered chieftain's wife. A hole was quickly dug, the stave planted and fagots supplied; but before a fire could be kindled the woman was dead, so that the barbarians were defeated in their hellish scheme of burning her alive."—Pp. 384–386.

And is it nothing to transmute such hyenas into the shape of man, by the humanizing process of civilization? Look on that picture, then look upon this. Speaking of the arrival of a slave cargo in the island of Cuba, the captain says:—

"When the genuine African reaches a plantation for the first time, he fancies himself in Paradise. He is amazed by the generosity with which he is fed with fruit and fresh provisions. His new clothes, red cap, and roasting blanket (a civilized superfluity he never dreamed of) strike him dumb with delight, and in his savage joy he not only forgets country, relations, and friends, but skips about like a monkey, while he dons his best garments wrong side out, or hind part before! The arrival of a carriage or cart creates no little confusion among the Ethiopian groups, who never imagined that beasts could be made to work. But the climax of wonder is reached when that paragon of oddities, a Cuban *postilion*, dressed in his sky-blue coat, silver-laced hat, white breeches, polished jack-boots, and ringing spurs, leaps from his prancing quadruped, and bids them welcome in their mother tongue. Every African rushes to "snap fingers" with his equestrian brother, who, according to orders, preaches an edifying sermon on the happiness of being a white man's slave, taking care to jingle his spurs and crack his whip at the end of every sentence, by way of *amen*."—P. 108.

We who have heard the *tom-tom* beat, and witnessed the mystic dance of thousands of native Africans and their lineal descendants in Congo-square, New Orleans, and who have studied the just and beneficent statutes of Louisiana, made and executed in their behalf, can readily believe in this glad transition state of that degraded though not unhappy race. Nay, we have tested the latter to our perfect satisfaction on a trip down the Mississippi. Assuming the character of an Abolitionist, somewhat to the danger of our neck, we sounded the slaves at each landing we made, and found *but one* discontented from the mouth of the Ohio to New Orleans—a distance of a thousand miles—and he offered to barter a new felt hat for whiskey, alleging that his master gave him two a year, being just one more than he needed.

But we must begin with the beginning, and sketch in our next number the life, character, and adventures of our author, in order that they may "point a moral" as graphically as they have "adorned a tale."

THE AMERICAN STATES.—ALABAMA.

We continue our series of sketches of the history, progress, and resources of the States of the American Union. As these papers are generally prepared by persons upon the spot, and familiar in every detail with the subject they elaborate, they cannot but have great interest and value. It certainly is complimentary to the Review that most of the works which have been prepared in the last few years upon the new United States or any portion of them, and have been published either in this country or abroad, refer continually and largely to it as an authority, and in some cases acknowledge that it would be impossible to obtain the matter in any other quarter. It is sufficient in this connexion to refer to the Gazetteer of Mr. Colton, and that of Lippincott, Grambo & Co.; Mr. Andrews' work on the Colonial and Lake Trade; the Report of the Patent Office, Simmond's Commercial Products of the Vegetable Kingdom, London; the works of Mr. Carey, Dr. Lieber, etc., etc. In truth the kind of material aggregated in the Review is adapted exactly to the hand of the historian. We continue to solicit papers of the character of the following.

Let us inquire what rank Alabama holds. Our State is young, a mere child in the united family. There are those who can remember her admission in 1819, but thirty-five years ago. Each of us having attained that age feels that life has but fairly begun, a long future still remains, the vigorous blood of manhood is yet fresh in the veins, the dignity of citizenship is newly acquired, and for the first time you begin to struggle for a footing on high places. Yet fully one half of the allotted lifetime has passed away. Now with a State and people, vitalized for all time, this thirty-five years is more like the first drawn breath, and maturity obtains only by the labor of many successive generations.* We cannot then, in reason, expect to find, where the footprint of the Indian is yet to be seen, aught else than the undeveloped elements of future distinction. But Alabama, like young Hercules in his cradle, has done wonders in her infancy. With the exception of Florida, Arkansas, and Texas, she is the youngest of the southern States, yet, according to the last census, there are now but five more populous, have outstriped in this five of her seniors. Her taxable property is estimated at $228,000,000, in which there are but four superior. And in her school fund, amounting to more than one million dollars, she is excelled but by three. I have no reliable data of internal improvements, but doubt not that she *ranks* high in this. A short-coming in railroads should not surprise us, since their consequence has been superseded in a measure by our vast inland navigation. But

* From the Census returns we ascertain by calculation that the property in this State, if divided equally among the white males, would nett to each $1,040; if we include females, each would receive $580. Slaves own nothing, being themselves property, yet if we include all persons, black and white, male and female, the average possession of each is $295. In order properly to appreciate our position in this matter, we must keep in view the relative age of the State.

in her exportations, that true index of national wealth and prosperity, Alabama may truly triumph. According to official returns* for the year ending June 30, 1852, she is surpassed in this but by two States in the Union, New York, and Louisiana, and it is the produce of other States received at their ports which enables even these to excel.†

It is the chief staple of the South which places us upon this elevation, and we are now seated in the greatest cotton growing region on the face of the earth. Louisiana, in 1849, produced seven per cent. of the entire crop, South Carolina twelve per cent., Mississippi nineteen per cent., Georgia twenty per cent., and Alabama nearly twenty-three per cent of the whole, which amounts to 564,500 bales, valued at more than seventeen millions of dollars. This amount, from the census returns, is, however, much too small, the error being due most probably to the method of obtaining these statistics. The Planters' Prices Current estimates by the shipments at Mobile, substracting the produce of East Mississippi, that the crop at South Alabama alone nets twenty-one millions of dollars. Now if we we add to this the crop of North Alabama and that which goes to Apalachicola, we believe that our annual income from this combined source will amount to no less than twenty-five millions.

What a volume of wealth and political strength is here; and where is the Alabamian who does not feel a swelling emotion of just and honest pride, when he casts his eye over the white autumnal mantle of our beautiful canebrake lands, the almost spontaneous emanation of indwelling richness, and reflects that *here* is the radiant that disseminates life and activity through the land, from which issues the power that sways the social and political interests of the proudest nation in the eastern hemisphere, and whose quiet but subduing influence pervades the civilized world.

Thus much has Alabama accomplished in one generation. Gladly would I show that we are steadily progressing. Heartily do I wish that the present tendency of affairs would fulfil the expectation which our rapid attainments inspire. But facts are stubborn things, and however disagreeable and discordant with our wishes, must not, will not, be suppressed. Let us then calmly look them in the face, nor attempt to molify harsh features.

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*Commerce and Navigation, Pub. Doc.

†There are no means for estimating the exports of the produce of New York and Louisiana exclusively, yet one fact is sufficient to support the above assertion with reference to Louisiana at least, *i. e.*, the population of Alabama is 771,623, while that of Louisiana is only 516,762. Hence we conclude that it is impossible for the latter to rival us in our amount of produce.

What is the progress of internal improvements? It has already been stated that our inland navigation has heretofore superseded in a measure the necessity for railroads, but that time has gone by, and we are now in actual need of more facile communication between the many populous centres which our multiplication has created. There are now in operation but little more than two hundred and twenty miles of railway in our State. Others, it is true, are projected in every direction to run hither and thither, delighting the imagination with their laudable intentions and liberal extent. What reasonable expectation may we entertain in regard to them?

One seventh part of the State on the north is commercially, and therefore sociably and politically disunited from the remainder. Its produce goes to New Orleans and the Atlantic ports, and the interests of its inhabitants are identified with those of other States. This unfortunate distinction will be more marked and irreparable on the completion of the proposed Memphis and Charleston railroad. Judge Phelan, in his admirable speech before the Railroad Convention at Elyton, has shown this isolation to be continually a prolific source of great political evils, and that a railroad connecting the two sections is needed to overcome the geographical barriers that make us two people. As early as 1836, eighteen years ago, a company was formed to this end, and twenty-six miles of road were actually graded, but the enterprise was buried by the disastrous revulsion in 1841, which threatened all the monetary affairs of our country with utter ruin. After this paralyzing shock the energies of our people lay dormant, and although in 1846 a survey from Gadsden to Gunter's Landing was instituted, yet the project was not fairly renewed until 1849. 1849. Taking the old grade, fifty-miles of the Alabama and Tennessee railroad was finished to Montevallo in June, 1853, and there now stands, the result of four years exertion. The directors have labored manfully to forward the work, and they *hope* to have about thirty miles more complete to the Coosa river by next spring. This, when accomplished, will, I believe, exhaust their means, and leave them encumbered with a heavy bonded debt. The eighty-five miles thus opened is little more than one-third of the proposed line, and the prospect of furtherance is almost hopeless, at least for a long time to come. Now, why this lagged state of things? Vast accumulations of mineral wealth underlie the remainder of the line, the country beyond the present terminus is settled and fertile, and yet the road crawls and is exhausted before it even arrives at the region where it can benefit its owners or the State. Al-

though its great importance to render us a commonwealth is recognized, yet there is not enough of public spirit among our citizens to sacrifice a few dollars for the good of the State and people. This blameworthy supiness seem almost universal. The spirit of Mobile is perhaps an exception, and her proposed connection with the mouth of the Ohio will be noticed in the sequel.

The Alabama and Mississippi Railroad was chartered by the legislature February 7, 1850, and as yet not a rail is laid. By aid of the government grant, being near one-fourth of the necessary fund, it will be finished some thirty miles, but although its importance and prospective value are also fully manifest, yet outsiders have no hope that it will extend beyond Uniontown, to intersect the Mobile and Ohio railroad, perhaps in the next half century, "unless," as Mr. Micawber would say, "something extraordinary turns up." The Mobile and Girard railroad, an immense and admirable project, has received an energetic impulse from the enterprising citizens of Mobile, but already languishes for other aid. It is hardly probable, unless here also something "turns up," that our children's children can indulge in an eleven hour's trip from Mobile to Columbus. The proposed branch of the Mobile and Ohio railroad, through Eutaw and Tuscaloosa to North Alabama, all will admit as another excellent project. The pocket of the dear public is being bravely bombarded with newspaper squibs and oratorical rockets, but we fear will prove quite as impregnable as ever, the inquirer's estimate always being an effectual damper to allay any inflammation that may thus be excited. The Montgomery and Selma, the Montgomery and Pensacola, the Montgomery and Mobile, the Selma and Mobile, and other railroads are of those that only serve so agreeably to delight the fancy with their goodly suggestions, and to arouse our bragging propensities. The hope of other results from them is necessarily abandoned.

This suicidal indifference on the part of the public should awaken the anxiety of reflecting citizens. Much of the wealthiest portion of the community seem to look upon our State as only a temporary dwelling place, and are careless of those great and immediate benefits which a well-devised and executed system of internal improvements would confer. The enterprising few who labor in the cause meet here but little of that railroad wisdom so characteristic of this fast age, and, indeed, it is a mortifying fact that a large proportion of our interest is held, principally in bonds, by citizens of other States and foreigners, and only with this aid can we, or rather do we

build.* In neighboring States railroads are rapidly linking city with city, and weaving iron network over the land, and Georgia is now stretching a huge proboscis across our State to drink the Mississippi at Memphis, and feed upon the wealthy products of our region, It will require the utmost tension of our energies in these matters to retain even our present rank. During the past four years we have built only about one hundred and ten miles of railway, meanwhile South Carolina has built near three times and Georgia fully four times as many. Their systems of roads are far advanced, ours is barely opened, being yet in small detached lines. These general considerations will not, it is believed, influence any one to greater liberality, but we may hope somewhat to open the eyes of our citizens to the pregnant truth that Alabama is weak in her internal improvements, weak not only in the little already accomplished, but weak in the disinclination of our capitalists to invest their means in a way that will advantage the people and promote State welfare. What becomes of the $25,000,000 which our commerce annually distributes among the planters of Alabama?

In manufactures we are doing comparatively, I had almost said absolutely, nothing. It should be the aim of every political community to become self-sustaining, yet we have only one million invested in manufactures of every description, incluing cotton factories, forges, furnaces, tanneries, and distilleries.† We are not, however, alone, for the whole south is now almost slavishly dependent on the north for the very necessaries of life, which great and small find here a vacant market. Steam-engines, and coffee-mills, and knitting-needles; carpets, cloths, domestics, hats, hose, ready-made pants, shoes and shirt-collars; ships, passenger-cars, carriages, ploughs, buckets, axe-helves, stoves, gridirons, pots, pokers, rat-traps and sausage-stuffers, and every other contemptible notion are bought, to the enormous profit of the commiserating Yankee, for the supply of our lamentable destitution. Here

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*We are not, however, peculiar in this respect. There is a statement in circulation, which is probably not far from truth, that in the prosecution of State works and private enterprise the United States has become the debtor of England to the amount of $400,000,000.

†The following table shows the number and capital of the manufacturing establishments in three States, producing $500 and upwards annually.

	Alabama.	*Georgia.*	*Tennessee.*
Number of establishments.....	1,022	1,407	2,789
Capital invested.....	1,000,000	2,000,000	3,000,000
Number of cotton factories.....	12	35	33
Number of forges, furnaces, &c..	14	10	81

[*Census of* 1850.

is one great cause why the capital of the planter yields so low a per centum. This is what drains away our 25 millions; instead of changing to railroads and factories, it goes north to repay the toil of the intelligent and enterprising New Englander. Even now we want an outlet for our accumulated labor to stay emigration, and permanently locate our 2,000 planters and 66,000 farmers, who are now ready, at any moment, to sell out and be off to Texas; which feeling it is that militates more strongly than any other cause against our advance in agriculture, manufactures and internal improvement. If slave labor cannot be turned to manufacture, though experience in Tennessee and elsewhere testifies the reverse, let our non-slaveholding farmers, who out number all others by three to one, abandon the soil to the negro, and betake themselves to mechanical pursuits far more profitable than their present occupation.

How these things are to be accomplished it is difficult to say; but the time is, in our State, when they must be, or we certainly and rapidly fall in the rear. Some eight or ten years ago Alabama made a fair beginning in manufactures but since has stood still. Other southern States are doing something. Virginia, Georgia. Tennessee and Kentucky are now gathering speed and already stand again in the first rank. And must we also wait until our lands are exhausted and our income diminished to a small fraction before we bestir ourselves, and not until then impel manufactures as a sort of struggle against death? Let it not be so. Let Alabama recognize her true interest now, and mingle in tne rapid march of American aggrandizement. Let Alabama be the standard bearer, the cynosure, the exemplar to lead and school her sister States.

The tendency of our agriculture is an old but pregnant theme. Our system is of the most exausting character. For its results, ask central Georgia, where once the cotton field spread out its white luxuriant beauty, where now red hills, gullies and broom sedge alone vary the landscape. Ask South Carolina and her vanishing population. Ask Virginia, once the high seat and centre of agricultural wealth, but lately almost desolate in her ten thousand abandoned farms. Already around our towns and villages fenceless old fields are spreading like diseased spots, and the time will one day be when even our deep canebrake soil will refuse to yield food or clothing. It is not ignorance of the fact nor want of experience which produces this state of things, for scores of South Carolinians and Virginians pursue here the same mode of tillage which has exiled them from their native soil. The cause is an indifference to

the future of this section, an unsettled state of feeling, and until some means are taken to *fix the population* we cannot hope for a change. It is not in human nature voluntarily to abandon a system which yields such munificent profits now, and whose evils will fall only upon another's children.

Statesmen and patriots have long earnestly sought to avert this and other evils, being in a measure common to the whole South. To this end conventions assemble, and, keeping a tight grip on the purse, pass most liberal resolutions recommending various odd things, whose only desert, frequently, is their comicality. Speaking of some of these resolutions to encourage manufactures, Lieut. Maury says they remind him of the solemn oath which sailors make each raw hand take when crossing the line—"never to kiss the maid when he can kiss her mistress, unless he likes the maid the best." So the substance of the resolutions may be stated thus:—Whereas, southern manufactures are greatly in need of our aid, therefore, Resolved, Never to buy of the North what we can get at the South, unless we can get it cheaper at the North! In a like vein the convention at Macon, Geo., recommended the whole South to act as a single corporation, and by affixing a high standard price on cotton to produce the effect of a monopoly. A resolution was offered at the celebrated Memphis convention to the effect that, as well as I remember, all southern ports should be closed against exportations for one year, to raise the price of cotton, and take the starch out of old England. Truely these are new wrinkles in that musty old science, Political Economy. The utter impossibility of the means proposed to accomplished a trifling end are about on a parallel with freezing a flame to keep it steady, or burning an iceburg to warm one's fingers.

But such Quixotic schemes are not a fair sample of the action of our conventions. Indirectly their influence has accomplished much good, by awakening the public mind to the importance of diversifying our industrial pursuits, and by diffusing valuable information respecting the existing state of things, and the causes which operate to obstruct our national progress.

And here we hit upon the root of the matter, for whatever educates the public mind will strikingly tell upon our advancement as a community of States. And what is Alabama doing thus to educate the public mind, and disseminate a theoretical as well as practical acquaintance with the pursuits of every-day life? Here again we have little to awaken pride. There is no encouragement to the growth of a valuable literature amoungst us, either of works to gratify the taste and re-

fine the intelect, or of those which accumulate facts and inculcate knowledge of immediate and practical value. All our reading has been prepared elsewhere, for other people, our own publications being confined to weekly news-sheets, which deal chiefly in party politics and witty extracts. Nor is the encouragement to scientific investigation, so essential to progress in this refined age, any greater. The truth would hardly be believed abroad, that although our State includes every important geological formation, from the Silurian to the Post Pliocene, a thorough acquaintance with which would undoubtedly develop untold resources, yet it has never received but one partial hasty survey, which the geologist himself has pronounced of the most superficial character, and must be regarded as only opening the way to good results.

But the most effectual way to advance the intellectual standard among a people is to educate the young. The way has been prepared by the formation of an ample school fund, which it is hoped will one day form excellent groundwork for our educational interests. Yet the Superintendent of Education, a few weeks since, thought it advisable, under existing state of things, to issue an address deprecating a failure of the system, setting forth numerous practical difficulties in its operation, and calling upon the citizens of Alabama "not to be deaf to the mute persuasions of her 100,000 ignorant and neglected children, or insensible to the claims which posterity holds upon them for an inheritance of intelligence, virtue, and freedom."

There are two, perhaps three, colleges in Alabama. The State University, a noble institution, possessing a most able corps of instructors and every facility for imparting knowledge and exploring its penetralia which a munificent endowment can afford, has, nevertheless, a scanty supply of students, and does not receive the deserved countenance and hearty encouragement of our citizens. Howard College, the property of the most wealthy and influential religious denomination in the State, does not receive that abundant patronage which its friends have a right to expect. Although by their aid it has rapidly mounted to the highest point which its means will admit, and here to-day challenges comparison with the standard institutions of the South, yet the extensive usefulness of which it is capable is to a considerable extent restrained for the want of a small increase of funds, which would at once establish it as a strong pillar in the denomination, and an exhaustless fountain to irrigate and enrich the State.

[TO BE CONTINUED.]

EVENTS OF THE MONTH, ETC.

The annual message of the President, with the accompanying reports of the several departments and bureaus, have furnished the usual interesting material for discussion during the past month, and enlightened the public upon subjects of national policy and administration. Some notes upon these documents will be valuable for future reference.

1. *The Message.*—The President reiterates the Monroe doctrine; he refers to the question of "free ships make free goods" as always contended for by the United States, and now admitted conditionally by France and England in the present wars. Russia adopts the policy absolutely, also the two Sicilies; but Prussia proposes a condition which is regarded inadmissible, viz. the renunciation of privateering. Such a condition would manifestly operate to the benefit of all powers having large naval establishments in proportion to their commercial marine, and the extent of their commercial exposure; but it would as clearly be detrimental to any powers having a large and widely-extended commerce with a small navy, in which condition we are found. The Reciprocity Treaty is now in full operation. Differences with regard to our northern boundary are again arising, requiring a commission to settle them and other questions touching the right of the Hudson's Bay Company. In regard to France and Spain, the President communicates little else than that explanations have been made in relation to Mr. Soule, &c. He proposes to give notice, relating to the Danish Sound duties, of the indisposition of the government further to comply with them. The Japan treaty only awaits ratification; grounds of difference with Mexico remain unsettled, and the work upon the boundary line is being pressed. Negotiations are still conducted with Brazil, in relation to the Amazon. The message dwells at length upon the Greytown affair, unanswerably showing the necessity under which it occurred, and justifying the stringency of the measure. Other matters in relation to domestic affairs will be as well seen under the heads of the several departments. The character of the message is altogether conservative.

Post Office Department.—There are 23,548 post offices, the annual compensations of 257 of which amount to $1,000 and upwards. During the last year, 1,842 offices were established, and 614 discontinued. Number of postmasters appointed during the same time, 8,618. Removals, 1,977. Number of mail routes, 6,697. Number of mail contractors, 5,167. Total annual transportation of mails, 63,387,005 miles, at a cost of $4,630,676; thus, 21,267,603 miles, by modes not specified, at five cents per mile; 20,890,530 miles by coach, at six cents per mile; 15,433,389 miles by railroad, at twelve cents four mills per mile; 5,795,483 miles by steamboat, at eight cents four mills per mile. Increase in the transportation during the past year, 2½ per cent.

The expenditures of the department during the past year were $8,577,424 12, and the revenue $6,955,586 22. To the former must be added $133,483 33, balances due foreign offices, which would leave the total deficiency for the year 1854, at $1,755,321 23. The deficiency for the year 1583 was $2,117,078 20, leaving a difference in favor of 1853 of $361,756. The increase in the revenue of 1854, compared with the revenue of 1853, is $970,399 48, or about 19 per cent.

There were in operation on the 30th September last, 239 railroad routes; their aggregate length was 16,621½ miles, the cost of mail transportation thereon was $1,923,747 89. Add to this the sums paid mail messengers, route and local agents, and the whole cost of this service will be $2,196,249 89.

Owing to causes not within the control of the department, the expenses of the current year will greatly exceed those of the past year. They are estimated at $9,841,921 33. This increase will be owing to the additional compensation of postmasters, and the enhanced prices demanded by contractors at the last lettings.

During the three years commencing July 1, 1851, $5,507,022 03 postage stamps and stamped envelopes have been issued by the department, of which $5,092,301 were sold

For the last year the cost of the service on the various United States mail steamship lines, and across the Isthmus, was as follows: Collins' line, twenty-six round trips, $858,000; New York

and Bremen, eleven round trips, $183,333 26; New York and Havre, eleven round trips, $137,500; Astoria and Panama, via San Francisco, twenty-four round trips, $348,250; New York and New Orleans to Aspinwall, $289,000; Charleston and Havana, $50,000; New Orleans to Vera Cruz, twenty-four round trips, $37,000; Aspinwall to Panama, $119,727. Total, 2,023,010 29.

The service performed by the several lines of ocean mail steamships is treated at large. The Postmaster General is of the opinion that the compensation now received is too large, and that the present system is calculated to drive off private competition. He also states that the Nicaragua company have offered to carry a weekly mail between New York and California for the sum of $600,000 per annum, which he thinks is the highest rate of pay which ought to be demanded. The cost this year for a semi-monthly mail, by the Isthmus route, is $757,977 03.

No progress has been made since the last report in the pending negotiations with Great Britain, relative to the admission of France into the arrangement, as contemplated by the provision in the 12th article of our postal convention. No postal convention has as yet been effected with France; but one is about being made with Mexico.

Treasury Department.—The usual and ordinary expenditures were as follows:

Civil list	$4,669,384 98
Foreign intercourse	7,726,677 13
Miscellaneous	13,531,310 33
Interior department	2,609,054 79
War department	11,733,629 48
Navy department	10,768,192 89
Redemption of public debt, interest and premium	24,336,380 66
Total expenditure	75,354,680 26

Balance in treasury July 1, 1854, as appears in detail, per Statement 1 ..... $20,137,967 50

The estimated receipts for the fiscal year, ending June 30, 1855, were as follows:

From customs	$51,000,000 00
From lands	3,500,000 00
Miscellaneous	500,000 00
	55,000,000 00
Add estimated balance in the treasury July, 1, 1854	11,266,604 62
Estimated resources for the fiscal year, ending June 30, 1855.	66,266,404 62

The estimated expenditure for the same year were as follows:

Balance of former appropriations to be expended during the year	$6,865,126 44
Permanent and indefinite appropriations to be expended during the year	8,285,716 14
Specific appropriations asked for the service of the year	35,909,434 54
Making an aggregate of	51,060,277 12
Leaving in the treasury July 1, 1855	15,206,327 60

The expenditures of the first quarter, and the estimated expenditures for the remaining three quarters, are $64,345,921 21, leaving an estimated balance in the treasury, on the 1st day of July, 1855, $19,762,046 29.

There is always at the close of the fiscal year, a balance thus estimated, not expended, of at least $12,000,000. That $12,000,000 may be applied to the purchase of the public debt during the remaining three quarters, without disturbing the estimated balance in the treasury.

The amount of the public debt outstanding on the 1st of July, 1853, was	$67,340,628 78
And on the 1st day of July, 1854	47,180,506 05
Being a reduction of	20,160,122 73

The estimated receipts for the fiscal year ending June 30, 1856, are as follows:

From customs	$56,000,000 00
From lands	6,000,000 00
Miscellaneous	500,000 00
	62,500,000 00
Add estimated balance in the treasury July 1, 1855	19,762,046 29
Making the estimated sum of	82,262,046 29

for the service of the fiscal year 1856.

Estimated expenditures for the fiscal year 1856:

Balance of former appropriations, to be expended this year	$11,212,905 20
Permanent and indefinite appropriation, to be expended this year	7,934,411 70

Appropriations asked for, and to be expended this year.	$41,722,516 47	
		60,869,833 37

leaving the sum of $21,392,212 92 on the 1st of July, 1856.

Upon this estimate of the receipts and expenditures of the fiscal year 1856, there will be a balance in the treasury, on the 1st of July, 1856, of $21,392,212 92, without expending anything in the redemption of the public debt; if $12,000,000 shall be applied to the redemption of the public debt, which may be done, there will remain an estimated balance in the treasury of $9,392,212 92.

War Department.—Colonel Davis has made such a report as was expected from his thorough military education, and his enlarged views upon this branch of service:

"Our effective force does not exceed eleven thousand men, which is entirely inadequate for the purposes for which we maintain a standing army. Its immediate increase is urged, at a cost sufficient to give some degree of security to the Indian frontiers, for which services the regular force is the most efficient, cheap, proper, and constitutional means. The increased pay to enlisted men, induced the enlistment of 1,005 men in October and September last, against 309 men during the corresponding months last year. The number of recruits required for the service of the ensuing year will probably not be less than 6,000. He recommends the use of camels and dromedaries for military purposes again, and asks an appropriation to test their usefulness. An increased pay for officers is urged as an act of justice and necessity. Additional legislation is asked to place the widows and orphans of the officers and soldiers of the army on an equality with the widows and orphans of the officers and soldiers of the navy.

The necessity of a revision of our military legislation, in some important particulars, is pointed out in order to prevent conflicting claims in regard to rank and command, which now gives rise to much inconvenience and trouble. One great source of difficulty is the double rank recognized by our laws; to remedy this it is proposed to give effect to brevet rank, only when the President may see fit; and forbid the exercise of brevet commissions in the regiment, troop or company where officers are mustered. Elaborate suggestions for reorganization of the staff corps are presented and compared with European systems. It is proposed that there be nine brigader generals—one for each department, one for quartermaster general; one for adjudant general, and two for inspectors general. Being an addition of three to those who now, by brevet or otherwise, have rank and command as brigadier generals. Other marked changes in staff appointments, rank, and duty are proposed.

Interior Department.—With the advantage of one of the most practical and business minds, and an energy which shrinks from no amount of labor, the Secretary has managed the affairs of his department with signal ability. We extract, as of widest public interest, his remarks upon the question of land donations for railroad purposes:

"In my last annual report, donations of public lands for the construction of great leading highways in the new States, were recommended for reasons therein stated. Although nothing has since transpired to change or modify the views then entertained and advanced by the department, yet it would be folly to attempt to conceal the fact, that through the popularity of the scheme, the apparent prospect of being able to prostitute it to mere purposes of gain has induced many projects which are totally unworthy of public confidence. It may, therefore, be difficult, under existing circumstances, to discriminate between those worthy of governmental aid, and those urged for mere speculative purposes. But if the application proceeds from the legislature of the State in which the improvement is contemplated, and upon a thorough examination and rigid scrutiny it is found to be promotive of the development of the country, and the enhancement of the value of the adjacent lands, there can be no reasonable objection to the grant. By confining it to the land in the vicinity of the projected thoroughfares, restricting the amount at any time to be patented to the construction and completion of a given number of miles of road, and throwing such guards around the grants as legislative wisdom may devise, there can be little danger of the donation being improperly used.

The applications to Congress at its last session, contemplated the construction of five thousand and fifty-six miles of road—exclusive of the great Pacific railroad and its branches—and assuming six sections to each mile of road, would

have required in round numbers twenty millions of acres.

In compliance with the urgent solicitations of the representatives of the several portions of country where these contemplated improvements were to be made, large bodies of land, estimated at about thirty one millions of acres, were withdrawn from market in anticipation of grants being made, but this not having been done, the lands were restored to market immediately after the adjournment of Congress. The withdrawal of lands from market under such circumstances was found, on examination and reflection, obnoxious to several objections, viz.: its effects in retarding the settlement of the country; its questionable propriety; the difficulty in discriminating between cases in which it should be done, and those in which it should not; and the injury that might be inflicted upon the section of country the proposed grant was intended to benefit, by turning the tide of emigration elsewere. For these and many other equally obvious reasons, it was determined that there should hereafter be no reservations for such purposes until grants are actually made by Congress.

The length to which our notices of the public reports necessarily extend, will exclude other comments upon the affairs of the month which are hereafter to have place, foreign as well as domestic.

Notices of Late Books.—We are indebted to the publishers for—

1. Little, Brown & Co's *Edition of the English Poets.* The last volume received was noticed in our December number. We regret that several of the later issues have not been received at the office of the Review. We always await them with interest.

2. *The End of Controversy Controverted:* A refutation of Milner's End of Controversy, in a series of letters addressed to the Most Reverend Francis Patrick Kenrick, Roman Catholic Archbishp of Baltimore, by John Hopkins, D. D., L. L. D., Bishop of Vermont, 2 volumes: New York, Pudney & Russell, 1854. The title of this work will be a sufficient indication of its character, and the name of Dr. Hopkins will be a sufficient guaranty of its power and ability.

3. *The History of Louisiana*, by Chas. Gayarré; New York, Redfield, 1854. A new and splendid edition, in 3 volumes, uniform.

Vols. 1 and 2. French Domination.

Vol. 3. Spanish Domination. The work has already been largely noticed in our pages.

4. *Report of the Sanitary Commission of New Orleans on the Epidemic Yellow Fever of New Orleans of* 1853. This elaborate volume has just appeared. The commission consisted of Drs. Barton, Axson, Simonds, Riddell, and McNeil, though the largest portion of the present volume is the work of the first named gentleman. We have marked many passages for extract and comment, and have no hesitation in saying that it is the ablest work upon sanitary matters ever published in America. It is illustrated with numerous charts.

5. *Party Leaders:* Sketches of Jefferson, Hamilton, Jackson, Clay, and Randolph, and other distinguished statesmen, by Joseph G. Baldwin. We endorse the critique of the Southern Literary Messenger:

"The book will make its mark. As a comprehensive review of the history of parties, it has never been equalled. The writer has unquestionably adopted the happiest mode of communicating information concerning our political history. The book is as entertaining as a work of fiction, while the judgments and opinions pronounced upon men and measures are moderate and just. In every instance, our opinions are identical with the writer's, and we caught ourselves at the conclusion of almost every paragraph echoing his words as the true expression of our thoughts. *We have never seen a work which pleased us more.* The author has accomplished all he attempted. We predict for it a brilliant success. It richly deserves it."

Notice.—If authors, writers, and publishers will send in their works of every description, addresses, pamphlets, reports, etc., they will be promptly and appropriately noticed.

Brief articles upon all subjects of literature, history, criticisms, current topics, etc., are solicited for the miscellaneous department of the Review.

AGRICULTURE AND FARMING.

CONGRESSIONAL LEGISLATION UPON GUANO.

Since the discovery of this valuable fertilizer the farming and planting interests have been anxiously awaiting some change in the manner of supply, that would be the means of lowering the price and bringing the article within reach of every class of consumers. Memorials have been sent to Congress from the most respectable conventions, asking for special negotiation with the government of Peru, which holds and enjoys this monopoly of the article. Reports and resolutions have been introduced into that body upon the subject, and investigations have been set on foot to find other depositories of the article among the islands of the Gulf, or the Pacific coast. Invention has been tasked to manufacture substitutes possessing like qualities, and of more economical application. All, however, has been vain, and Peruvian guano continues to appreciate rather than decline in price, whilst its consumption is largely increasing.

It is an important question for the agricultural interests, if this state of things must continue.

At the last session of Congress the following bill was introduced, which laid over for the want of time.

A BILL regulating, in part, the trade between the United States and the republic of Peru.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the first day of July, anno Domini eighteen hundred and fifty-five, the Peruvian (Chincha island) guano shall be exempt from duty when the market price in the ports of the United States into which it is imported shall not exceed forty dollars per ton of two thousand two hundred and forty pounds.

SEC. 2. *And be it further enacted*, That from and after the same period there shall be levied, collected, and paid, on the said guano imported into the United States, duties at the following rates, ad valorem, that is to say: four per cent. when the market price is more than forty and less than forty-seven dollars per ton; ten per cent. when more than forty-seven and less than fifty dollars per ton; and sixty per cent. when the price is equal to or exceeds fifty dollars per ton. And that the Secretary of the Treasury be required to adopt such rules and regulations as may be necessary to carry out the provisions of this act.

Although the principles of the bill are somewhat at variance with our revenue policy, the mode of discrimination which it introduces cannot be considered improper in view of the immense interests which are affected; or unjust, when it is remembered that Peru, by her monopoly, exacts a rate of compensation in the way of a tax which is equal to 30 per cent. of the cost of the article. The only question is, will the policy avail in reducing this tax, or will it only tend to increase

the cost of guano by adding to it an import duty? Certain it is that Peru would be unwilling to yield at first, and, thereupon, that embarrassment would be caused to the agricultural interests, as well as to that country, in the diminished demand for the article. In such a contest the victory would belong to whoever should be able to hold out the most pertinaciously. Considering, however, the partial substitutes that may be adopted, and the present feeling existing among farmers, and, at the same time, taking into view the fact that governments everywhere find use very nearly for all of the means that they can command, and are not disposed to forego with patience the enjoyment of any portion of these means, it is not improbable that Peru will be willing to admit of more favorable terms than at present. At least the experiment is worth the trial.

We have been furnished a pamphlet prepared at the Peruvian legation in Washington in answer to the action of Congress, containing an elaborate exposé of the subject, with corroborative documents.

We think it fair to give a few extracts from this pamphlet and will refer again to the subject.

"It is an error to suppose that this price of $17 realised by the Peruvian government on each ton would enable the farmer in the United States to obtain it at a less price than $50, which he now pays, if the exportation for this country was made on private account, as will be very briefly shown. But, meanwhile, this price of $50 per ton is not equal to the intrinsic value of the ammonia, phosphate of lime, and other substances which enter into the composition of natural guano, which would cost more than $60 per ton to the manufacturer of artificial guano, without taking into account the labor of manipulation, and other expenses which enter into the manufacture of artificial guano. It therefore results, that the country producing the article, possessing the advantage of having no competitor, that may increase its price to a point at which it can meet no competition from the producers of other fertilizing agents or manufacturers of artificial manures, renounces this advantage in favor of the consumer, establishing throughout the world a price relatively equal and proportioned to the consumer by its actual system of supply, and guaranty of the purity of the article, well worthy of consideration, and which could not be obtained under a system of free traffic and without the intervention of well-accredited and responsible consignees."

"In regard to the first error, the current prices in the London market give a more favorable result than the guano market in this country, being almost constantly above $50 per ton, and this fact leads to the conclusion that the American market is really the most privileged, when we take into consideration that during the last few months freights have been taken at higher prices in many cases than what is paid on cargoes destined for England; and on that account the Peruvian government has derived less profit on the balance of importations into this country."

"We will confine ourselves solely to a statement of what has been the conduct of the government since a market was first established in this country by the efforts of those agents, combined with the intrinsic advantages offered by this fertilizer. The price which had been fixed since 1851, was $46 per ton of 2,240 lbs. There were sold in 1852, 25,300 tons; that, at $46, amounted to the sum of $1,162,800. We will now see what proportion of this sum contributed to the advantage of the people of the United States, what was received by the government of Peru, and what by the agents:

The freights were on an average $17 per ton	$430,100
Extra compensation paid to captains of guano ships for unloading, average 20 cents	5,060
Three hundred and eighty thousand bags, at 16 cents	60,800
Inspection and weighing, at 40 cents per ton	10,120
Filling and sewing up 380,000 bags	3,800
Storage on an average of 4 months	60,800
Insurance against fire for same period	2,325
Laborage, drayage, and delivery	9,500
Proportions of general average paid on various vessels	27,360
Interest for 6 months on freight, at 6 per cent	12,903
Interest on expenses 8 months, at 6 per cent	7,214
Total of disbursements in favor of the United States	630,582
To the consignees for commissions, guarantee and compensation for advances	75,582
Total amount received by the government of Peru	456,636
Total product of the sales	1,162,800

"Senor Minister: The commissioners appointed by the supreme government to estimate the amount of guano on the Chincha islands, have performed that duty, and have now the honor of submitting an account of their labors.

"Having organised at those islands, the commissioners divided themselves into two sections; the first, directed by Señor Faraguet, was occupied with the northern islands, and his investigations gave for result the quantity of 4,189,477 Peruvian tons, according to the statement made by that gentleman of his operations. The second were jointly occupied with the other islands. The middle island was found to contain the estimated quantity of 2,505,948 tons.

"The southern island, the only one remaining unworked, after the most minute investigations, was found to contain 5,680,675 tons.

"Adding together the contents of guano on the three islands, makes the sum total of 12,376,100 Peruvian tons.

"We hasten to lay before you this result, accompanied with drawings of the said islands, for your information; and it only remains for us to render a detailed report of our proceedings in the matter, which will be shortly done, evincing the zeal with which we have performed the delicate trust confided to us. We have also to report that we know of the existence of large deposites of guano in the Bay of Independence, on the continent; and although we have not made a survey thereof, yet it may be estimated, taken in connexion with the deposites of Ancon, Lobos, and others, that this valuable product may be regarded as inexhaustible for a great number of years.

THE SUGAR CROP AND CLIMATE.

The last crop of Louisiana sugar, 1853–'54 was unprecedently large, but planters realized but little advantage from it, in consequence of the low prices at which sugar ruled. We extract the following from Mr. Champomier's report, and refer to the facts for previous years in other volumes of the Review. 366,667 hogsheads of sugar were made by the old process, and 82,657 were refined, clarified, &c., including cistern. The Texas crop of the same year is stated at 8,280,000 pounds—being produced in Brazoria, 5,439,000; Matagorda, 1,598,000; Wharton, 531,000; Fort Bend, 720,000.

The Sugar Crop of Louisiana.

Parishes.	Sugar houses.	Steam power.	Hhds. sugar.
Rapides	43	37	18,994
Avoyelles	28	17	8,491
West Feliciana	19	18	8,551
Pointe Coupée	58	56	15,417
East Feliciana	13	13	3,549
West Baton Rouge	57	50	21,024
East Baton Rouge	53	49	12,701
Iberville	133	115	39,786
Ascension	56	50	30,760
St. James	85	67	33,736
St. John the Baptist	67	51	17,601
St. Charles	35	35	18,386
Jefferson	29	29	15,810
Orleans and St. Bernard	25	25	9,243
Plaquemines	45	45	25,042
Assumption—Bayou Lafourche	154	69	32,612
Lafourche Interior Bayou	77	55	24,081
Terrebonne Bayou	88	55	24,393
St. Mary, Attakapas	182	67	39,105
St. Martin, Attakapas	99	15	14,347
Vermillion, Lafayette	17	16	1,129
Lafayette	17	2	3,162
St. Landry, Opelousas	65	35	12,711
Divers small parcels made in hogsheads and barrels in different sugar-houses not reckoned.			
Cistern bottoms of 366,667 hogsheads brown sugar, at an estimate, say, of 5 per cent			18,333
Total	1,437	*956	†449,324

*481 by horse-power in the State.

†Estimated at 495,156,000 pounds.

The following remarks and statistics germane to the culture of sugar are taken from the report of the Smithsonian Institution, made by Professor Blodget. It will appear in full in the annual volume of the Patent Office, 1853–'4, and is well worthy of the study of all agriculturalists. (See p. 44.)

FLORIDA AND SPANISH TOBACCO.

At the convention of Southern Planters which met last December in South Carolina, many able papers were presented. Some of these we have already extracted from or published entire. The following from Mr. Forman has been waiting a place and is eminently deserving of a prominent one We trust that the Association of Planters will continue to meet each year under brighter auspices. Its proceedings will be promptly chronicled.

The seed from which the Florida tobacco is grown, was introduced into this country about the years 1828-'9, from the Island of Cuba, under the name of Havana seed. The object of those introducing the seed was to produce an article similar, if possible, in flavor to the Havana tobacco. The product was a small dark leaf, comparing in flavor with perhaps third rate Havana tobacco. Expe-

riments with the different kinds of seeds brought from Cuba have, so far as I am aware—(and they have often since been made here)—resulted in a similar manner. We have no soil in this section of Florida which produces, or rather reproduces, the flavored tobacco of the plant from which the seed is gathered in Cuba. My information on this subject is, that in Cuba they have some eight or ten different qualities and varieties in texture, color and flavor, according to the different parts of the island in which the tobacco is planted—the best being raised in the vicinity of Havana; and that some of the tobaccoes that are raised in other portions of the island are almost valueless. The stiff red clay lands here have answered best for retaining the flavor of the original imported seed, for a year or two, after which period the flavor passes away, and the plant assumes a different appearance from its first growth, viz: larger, thinner leaf, of brighter colors, and the tobacco insipid and flavorless. I have seen several treatises on the subject of giving tobacco a flavor, by gentlemen acquainted with the process used in Cuba, and think it likely that a skilful and judicious treatment is necessary, even with the Cuba grown article, to improve its flavor, but doubt whether any artificial process will impart much of that desirable quality to any tobacco, as the United States and other countries. Manufacturers are too keen scented not to have taxed their ingenuity to the utmost to produce so desirable a result as making a fine flavored tobacco out of an article to which nature has denied the gift. My impression is that the flavor of the Cuba grown tobacco is owing to some peculiarity of the soil; as the spot, which is the distinguishing feature of Florida raised tobacco, doubtless is; and in this peculiar spot consists its prominent merchantable superiority over Connecticut, New York, Ohio, Mason County, Kentucky, and other portions of the United States cigar-wrapper tobaccoes. I believe that all the sandy hammocks along the coast of the Gulf of Mexico, from the coast to perhaps one hundred miles into the interior in width, and from Florida to Texas in length, can raise spotted tobacco. In fact, it has been raised in Texas by emigrants from this county this season, but the demand for it being mere fancy and for wrappers exclusively, the market is easily overstocked, as has been the case, say in 1845, when the price fell very low, and as a consequence no year's planting has equalled that year, the crop of 1853 not being equal to half its size. This spot, the Connecticut people, who raise from five to ten times the amount of cigar tobacco we do, but which lacks the spot, have attempted to imitate by chemical process and the use of acids, but have found whenever they had succeeded in making a spot, they have made a hole also.

The Association, as planters, will understand me when I compare the cultivation of tobacco in Florida with that raised in other portions of the United States, as being in much the same ratio in production and profit, that the cultivation of Sea Island Cottons bear with that of the short staple—our Florida tobacco having the same difficulties to contend with in the tobacco market that Sea Islands have in the cotton market, viz: the production of a fine article, preparation for market, and a limited demand. The East Floridians, whose soil is well adapted for the cultivation of tobacco, and who have raised it for some years past, have abandone it for the cultivation of Sea Island cotton, as the most profitable crop of the two. The Virginia, Kentucky, Connecticut and other seeds planted here, soon make as spotted an article as the Havana seed; and in order to make a desirable cigar, it is necessary to use a flavored filler of Havana, Cuba, &c. Although our section of country does not produce a flavored tobacco, Southern planters ought to keep trying; and I would recommend to the Association, if practicable, to have the soil that produces the flavored Havana tobacco *analyzed*, and to make some arrangement to have the genuine Havana seed imported and disseminated at the various southern shipping ports, through agents, who can procure them from Havana and furnish them on reasonable terms, together with a treatise on the subject of the proper treatment of the tobacco, when gathered, to improve its flavor, as is done in Cuba—and each one of our planters will thus be induced to make a trial of what kind of a flavored tobacco his land will produce. The culture of tobacco languished in this county for some years after it was ascertained that we could not raise a flavored article; and whilst the process was developing itself yearly, that we could raise a fine, showy, handsome wrapper leaf—and it was owing to the perseverance of two planters, (Messrs John Smith and William S Gunn, both formerly of Virginia,) that hundreds of thousands of dollars have eventually been realized from its production in later years. I believe at one time the cultivation was confined to those two gentlemen exclusively, and

until their success induced others to embark in it. I consider the chance of success in raising an article that will retain the flavor of the original seed, a sufficient inducement to southern planters, with the diversity of soil and climate that we possess, (to say nothing of the object which they all, in common with your Association, should keep in view,) to induce each one to invest a few dollars in the purchase of seed, and to divert a small portion of their labor to make an experiment in tobacco. For if land can be found that will make tobacco of like flavor with the Havana, they would pay better than any other kind of planting, and it would be difficult to estimate them at their intrinsic value. They would be more valuable than any description of lands that I have any knowledge of. I have known the product of an acre of land in Florida planted in tobacco to yield from $250 to $300, but this it will only do the first year—our tobacco requiring a virgin soil of fresh cleared hammock for fine wrappery tobacco, and no other description of land pays for the culture of it. Hammock land has recently been bought in this neighborhood at $50 per acre for this purpose. Manures do not answer well on second year's land. Cotton seed makes the tobacco rough, and animal manures gummy. In Cuba they can plant the same land continuously. We aim at making a fine, thin silky article, and consider the product of more than 500 lbs. per acre an evidence against its quality and value. In Cuba, the planters, relying upon the flavor of their tobacco, can safely raise twice or three times that number of pounds per acre. We have to pull it leaf by leaf, and put it on sticks to cure, so that no two leaves shall touch, or it will injure. In Cuba, after gathering some of the lower leaves in this way, they can cut down the entire stalk, as what does not answer for cigar wrappers will for fillers. With us, all except the large leaf is worthless, whilst in Cuba all that grows on the stalk and is cut down with it, no matter how small, is worth as much per lb. as our finest selections. My knowledge on the subject of Florida tobacco is the result of experience; on that of Cuba, from the best information I have been able to obtain on the subject. The planters who first raised tobacco here had it made into cigars, which they sold at prices sufficiently remunerating to induce them to continue its cultivation. Each subsequent year produced a larger, silkier and more spotted leaf, and in a few years a shipment was made to New York that realized seventy-five cents per lb. The advice accompanying the account of sales was, that it was owing to the size, color, from a dark brown to a deep mulatto color, silkiness and the remarkable spot on it, making it very desirable for cigar wrappers, that enabled the commission merchant to realize that price; that it was desirable to forward it to market as flavorless as possible; all the taste it had being rather better than otherwise. Experience has tested and proven the justice of this advice. Many subsequent shipments were made up to 1837, selling for from 25 to 50 cents per lb.; and cigars, being a new and fancy article, sold both at home and in New York on consignment at $15 per thousand; the latter being the most profitable. Owing to the disastrous state of financial affairs throughout the United States, at that time, and for some years later, the price of tobacco and cigars rapidly declined up to 1841 and 1842, when it became difficult to realize five dollars per thousand for cigars, and twenty cents for the best tobacco; and the manufacture of the former and the culture of the latter was measurably abandoned. And from the want of flavor in the cigar and its unpleasant taste, the manufacture of them from exclusively Florida tobacco has never been renewed to any extent. But in consequence of an experimental shipment to Bremen, made by Forman & Muse, of this place, in the spring of 1842, the article of unmanufactured Florida cigar wrappers was introduced to the notice of the German buyers, and all of it that was on hand in New York was soon purchased up under German orders, at a considerable advance on the price it had been offered at before, it being difficult to sell it at any price until this demand for the Bremen market sprung up. Agents from abroad made their appearance the ensuing season, and purchased nearly the entire crop, at from 20 to 30 cents per lb. That which was not sold at home, being but a small proportion of the crop, brought from 20 to 50 cents per lb., as per quality. In consequence of this, the amount of tobacco raised in 1844 was an increase on that of 1843, and all of it shipped on planters' account and sold at from 50 cents for fine, and a gradual reduction in the price, for that which was undersized, say only 12 to 15 inches long, of a black or motley color, of thick texture and unspotted, down to a price that brought the shipper in debt, from its want of flavor, making it valueless for fillers for cigars. Notwithstanding these drawbacks, from a majority of the planters

having done well with their crops of 1844, a larger extent of land was put in tobacco in 1845, than had been before or has been since in this and of the adjoining countries of this State, and of the State of Georgia. Its production was increased much more rapidly than the consumption, and it required several years, say 1845, '46 and '47, to work off and up the surplus of that year's crop. As a consequence, but a small amount of land was planted in either of the years 1846, '47; after which the price and demand (consumption having overtaken production) improved, and the cultivation of it here has become regular but limited in extent.

From the 1st of July to the 15th of August is the period most desirable for gathering tobacco, as the heat and dry weather during that period cures it a handsome color, and tobacco cured at an earlier or later period, as a general thing, is apt to be too dark. To bring in the gathering at this period, the plants must be set out about from the 10th to the 30th May, and if during the period of curing very wet spells of weather occur, as is frequently the case, it is necessary to build fires through the barns. Five hundred pounds to the acre is as much of good tobacco as can be made, on an average; and an acre is as much as one hand can keep wormed, if he can accomplish that. The difficulties to be encountered in raising tobacco are the cut-worm, which destroy not only the beds of young plants, but also the plants after they are set out in the hill; and to insure a stand, it is necessary to sow a large number of beds, and to keep setting out the plants as the season justifies, and watering if it does not, during the period before mentioned as the proper one for setting out the plant. It must be kept free of the horn-worm, as the plant approaches maturity, or they will destroy it in a week or two. It should be well matured before gathered as pulling it too green and full of sap is the cause of much black tobacco. Crowding it too close on the sticks after gathering will spoil it. The leaves ought not to touch. Hanks containing twelve to fifteen leaves make the best appearance when shown for sale. Care should be taken that the stem of the leaf be thoroughly cured before it is boxed; otherwise it is liable to heat and mildew; and when packing, its condition by absurption of moisture from the atmosphere during a damp spell of weather, should be, that its edges, when a bundle of it is passed through a person's hand, should slightly rattle from being dryer than the balance of the leaf. Tobacco is sometimes injured by being put up too damp, or as it is called in too high case; and yet sufficient moisture is essential to make it appear to advantage when opened. It is a difficult matter to give a proper and intelligible direction under this head, and experience alone will give a correct idea of the condition it should be in at this stage; for if put up too dry, the article when offered for sale abroad, shows to great disadvantage. The effort to save a trifle in freight and lumber by packing too hard, and thereby injuring the texture of the tobacco, is another error to be avoided; and it has at times proven a serious one to the shipper. A case four feet long, two feet six inches wide, and two feet six inches deep, should not contain more than 350 lbs. of first rate silky tobacco, or 400 lbs. of heavier second quality. And the neater the case is made, and the tobacco handed up and packed, the better. Twenty-five cents per lb. may be considered the intrinsic value of fine Florida wrapper tobacco. Good crops contain about two-thirds of that description.

Estimate of amount, number of boxes, pounds and price of Florida tobacco, to date.

From 1831 to	Years.	No. of cases per year.	Pounds.		Pounds.	Cents.						
1843	12	200	300	each, is	600,000, at	25,	is $ 15,000	for	12	years—is	total,	$180,000
1843	1	350	300	"	is 105,000, at	25,	is	"	1	year—	"	26,250
1844	1	1500	300	"	is 450,000, at	20,	is	"	1	"	"	90,000
1845	1	4000	300	"	is 1,200,000, at	12½	is	"	1	"	"	150,000
1846	1	1500	300	"	is 450,000, at	12½	is	"	1	"	"	56,250
1847	1	900	300	"	is 270,000, at	15,	is	"	1	"	"	40,500
1848	1	1300	300	"	is 390,000, at	20,	is	"	1	"	"	78,000
1849	1	2000	300	"	is 600,000, at	20,	is	"	1	"	"	120,000
1850	1	2000	300	"	is 600,000, at	20,	is	"	1	"	"	120,000
1851	1	1200	300	"	is 360,000, at	20,	is	"	1	"	"	72,000
1852	1	2000	300	"	is 600,000, at	20,	is	"	1	"	"	120,000
1853	1	2000	300	"	is 600,000, at	16¼	is	"	1	"	"	96,000
	Total											$1,149,000

QUINCY, *Gadsden County, Fla., Nov.*, 1853.

STRUCTURE OF THE FIBRE OF COTTON.

In submitting to examination the filamentous substance which constitutes cotton, we find, in point of structure, that it corresponds entirely with hairs found on other parts of plants, and that it is in fact a mass of vegetable hairs, of considerable though of varying lengths, rising from the surface of the seeds, enveloping them, and assisting to fill up the cavity of the seed-vessel. It would be interesting to ascertain the functions which they perform with respect to the seed, as we might thence be led to draw some deductions as to the mode in which they might be increased in quantity or in length. But in the present state of information, the only inferences which we can draw are such as are applicable to hairs in general, or to their position on the parts of fructification, instead of on those of vegetation. Hairs are formed of cellular tissue, usually of one or more filiform elongated cells, joined end to end, formed of extremely thin and transparent membrane. When composed of only a single cell, the structure will necessarily appear continuous; but if of several cells, then a number of tranverse partitions will be observed along its length. As usually examined, hairs appear to consist of only a simple delicate membrane, within which may, in many cases, especially when in a young state, be seen a regular circulation of fluid, in which are suspended a number of fine granules, which proceed from and return to a particular point in the cell. Some of these cells, when examined with a higher magnifying power, are seen to be composed of two membranes, one within the other, between which fluid appears to circulate. Such hairs, when allowed to dry up, display the two sacs more distinctly, as the inner collapses more than the outer one. Such delicate organs, it is evident, must be readily influenced by the varying state either of the soil or of the atmosphere, whether with regard to heat or cold, dryness or moisture. Hairs are found on all parts of plants exposed to the air, and are absent from, or are but sparingly seen, on those growing in water. They are abundant on plants growing in dry situations, but disappear from the same species when growing in moist places, and would therefore appear to be useful in absorbing nutriment.

The filaments of cotton have been subjected to repeated examination, in consequence of the interest attached to the mummy cloth of Egypt, and of the desire to ascertain whether it was composed of cotton or of linen. Larcher, in his Notes

to the Translation of Herodotus and Forster, in his Tract "De Bysso Antiquorum," had asserted, "from their own examination, that the mummy cloth of Egypt was cotton," as Rouelle had done before them, and as Rosselini has done since, even after most satisfactory evidence had been adduced to prove that it was linen. Mr. Thomson, of Clithero, was the first to have recourse to the only satisfactory method by which the fact can be determined, that is, by the use of the microscope. He had first ascertained that other methods of judging were unworthy of confidence, as several intelligent manufacturers, on examining a collection of pieces of mummy cloth "were of opinion, that the cloth was cotton, others that it was linen; and some, again, that there were in the collection specimens of both."

Mr. Thomson justly observes, that "the great difference in the specific gravities, as well as in the conducting power of linen and cotton, is sufficient to enable us, by careful experiments, to discriminate accurately between them. There are few individuals who have been accustomed to the use both of cotton and linen, who cannot readily distinguish, by that delicate sense of touch diffused over the white body, between the two fabrics." But this, of course, requires larger pieces than Mr. Thomson had of the several mummy cloths. The author has already observed that cotton, from the irritation which is produced, "is not so well fitted for surgical dressings. But being a worse conductor of heat than linen, it is well suited for inner clothing, where the object is to preserve uniformity of temperature, as it will retain heat, and prevent the body being so readily affected by external heat or cold, at the same time that it condenses less freely than linen the vapour of perspiration, but absorbs it readily when it has been condensed into the form of sweat. For these reasons, probably, thick calico shirts, &c., have been introduced into the army for the use of soldiers." (Manual of Mat. Med., p. 289.) It may, in short, be considered the flannel of tropical countries, as, from its inferior conducting power, it renders the body less liable to be chilled when in a state of perspiration.

As the differences in the conducting power of small fragments of mummy cloth are not sufficient to determine whether it is linen or cotton, it occurred to Mr. Thomson to subject the filaments to microscopic examination, and he was fortunate in obtaining the assistance of the late Mr. Bauer. Mr. Thomson having transmitted to him various fibres of cotton and linen, both manufactured and in their raw state, as well as fibres of unravelled mummy cloth, in a few days received from him a

letter, in which he pronounced "every specimen of mummy cloth subjected to his examination to be linen." A drawing which accompanied the letter exhibited "the fibres of both raw and unravelled cotton as flattened cylinders, twisted like a corkscrew, whilst the fibres of linen and various mummy cloths were straight and cylindrical." In a more detailed description Mr. Thomson observes, that "the filaments of cotton, when viewed through a powerful instrument, appear to be transparent glassy tubes, flattened and twisted round their own axes. A section of the filament resembles in some degree a figure of 8, the tube, originally cylindrical, having collapsed most in the middle, forming semi-tubes on each side, which give to the fibre, when viewed in certain lights, the appearance of a flat ribbon, with a hem or border at each edge. The uniform transparency of the filament is impaired by small irregular figures, in all probability wrinkles or creases arising from the desiccation of the tube. The twisted and corkscrew form of the filament of cotton distinguishes it from all other vegetable fibres, and is characteristic of the fully ripe and mature pod, Mr. Bauer having ascertained that the fibres of the unripe seed are simple, untwisted cylindrical tubes, which never twist afterwards if separated from the plant; but when the seeds ripen, even before the capsule bursts, the cylindrical tubes collapse in the middle, and assume the form already described. This form and character the fibres retain ever after, and in that respect undergo no change through the operation of spinning, weaving, bleaching, printing, and dyeing, nor in the subsequent domestic operations of washing, &c., till the stuff is worn to rags; and then even the violent process of reducing these rags to pulp, for the purpose of making paper, effects no change in the structure of these fibres."

Cotton was next examined by Messrs. Bowerbank and Williams, and even before the publication of Mr. Thomson's paper, though his results had been obtained many years previously, and communicated to many, both in this country and on the continent. Messrs. Bowerbank and Williams describe cotton-wool as consisting of a multitude of fibres, each having the appearance of a flat ribbon or tape, about the $\frac{1}{1000}$th part of an inch in width. A piece of ancient Peruvian gauze, which formed the envelope of a dried body found in a sepulchre at Guacho, in Peru, when examined, likewise exhibited the flat fibres of cotton. (Egypt. Antiq., p. 192.) Dr. Ure observed them to be substantially the same; but being tortuous, when viewed in one part they look like a ribbon, and in another like a narrow line. Dr. Lindley describes them, when immersed

in water, as long weak tubes, looking like flat, narrow, transparent ribbons, with a perfectly even surface and uniform breadth. It is only occasionally that any appearance of joints is observable in these tracings, perpendicular, or nearly so, to the side of the tube. Sometimes a slight trace of fine grains is discernible in the interior, but more frequently the hairs seem empty.

Mr. E. Wilson says, "I found the fibre of cotton opaque along each border, and translucent in the centre." When immersed for some time in water, the fibre assumed a cylindrical form, which Mr. Wilson apprehends is its appearance in a fresh state. It is, then, obviously composed of tubular parenchyma, enclosed in a thin transparent cylinder. The author has been favored with a view of Mr. Wilson's original drawings, displaying in the interior the appearance of granules. A figure is given of a fibre of cotton in his work on "Healthy Skin." The nature of the fibre of cotton, and its distinctness from that of flax, having been so well established by the preceding observations, as well as by others in this country, it seems hardly possible to doubt that mummy cloth is composed of flax and not of cotton. But Mr. Thomson, having found that some (as Rosselini) still doubted the correctness of his deduction, has been induced to go over the whole subject again, with the assistance of Mr. Warrington and of Mr. Cornelius Varley. The author has been favored by Mr. Thomson with a beautiful series of engravings of the fibres of flax, of cotton, and of mummy cloth; from one of these the artist has copied the figures. He has himself submitted both American and Indian cottons to examination, and found the fibre of the Sea Island cotton exactly like the beautiful drawing of Mr. Varley, while the Indian cottons he found more like Mr. Bauer's drawings, in Mr. Thomson's original paper,* in the series marked B. Mr. Thomson, to whom the author sent genuine specimens of the Indian and American cottons out of the pods, observes, that the fibre of cotton, whether of the east or west, is essentially and characteristically the same.

* On the Mummy Cloth of Egypt, &c., from the "Annals of Philosophy," June, 1834, by James Thomson, F.R.S.

THE CANE AND COTTON DISTRICTS.

*Mean temperatures of the cane and cotton districts of the United States, with some foreign tropical comparisons.**

Places.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Spring.	Summer.	Autumn.	Winter.	Year.
Key West.....	70.0	70.7	73.8	76.3	80.2	82.1	82.3	83.5	82.5	79.1	75.6	72.8	76.7	83.0	79.1	71.2	77.5
Cedar Keys....	53.9	59.7	67.3	68.7	75.8	78.6	80.5	80.7	78.7	73.1	64.4	59.8	70.6	80.0	72.1	57.8	70.1
St. Augustine..	55.9	58.7	62.4	68.0	71.8	78.2	80.0	80.1	78.1	70.9	63.9	56.0	67.4	79.4	71.0	56.8	68.7
Savannah	52.6	54.7	60.0	68.4	74.8	79.4	81.3	80.5	76.9	67.2	58.8	52.2	67.7	80.4	67.5	53.0	67.2
Mobile.....	56.4	57.4	65.6	70.0	76.8	82.2	82.4	82.7	78.9	70.0	61.5	55.5	70.7	82.4	70.1	56.4	69.9
Pensacola.....	56.2	57.8	64.5	68.6	76.5	80.7	84.9	83.6	78.9	71.0	61	57.8	69.9	83.0	70.4	57.3	70.1
New Orleans...	54.8	54.4	61.5	67.6	74.0	78.6	80.4	79.6	77.1	69.1	87.5	56.2	67.7	79.5	67.9	55.9	67.5
Galveston.....	48.1	58.0	63.5	70.0	78.7	80.7	83.0	83.3	78.3	73.1	60.2	55.6	71.0	82.5	70.2	56.8	69.4
Brownsville....	59.5	66.9	69.4	74.5	78.9	80.8	83.3	84.6	80.4	73.9	66.9	60.8	74.3	82.9	73.7	62.2	73.3
San Antonio...	52.7	57.8	65.5	69.7	76.4	80.5	82.3	83.8	79.9	72.2	62.2	52.1	70.5	82.2	71.4	54.2	69.6
Fort Jesup.....	50.5	52.3	59.3	67.4	73.7	80.3	82.3	81.3	76.1	66.2	56.7	50.3	66.8	81.3	66.3	51.0	66.4
Natches	51.2	52.9	60.5	70.2	74.5	80.8	82.2	80.9	76.9	65.9	57.1	50.2	68.5	81.8	66.6	51.4	66.9
Fort Washita ..	44.7	47.9	52.9	63.5	70.7	76.5	81.3	81.0	75.1	63.2	51.6	42.8	62.4	79.6	63.8	45.1	62.6
Vicksburg.....	47.8	52.7	63.3	63.7	73.0	77.7	78.7	78.7	74.1	65.4	74.5	50.4	66.7	78.4	64.7	50.3	65.0
Memphis.....	41.7	45.9	55.3	59.0	68.9	75.8	79.9	78.5	72.5	58.4	58.3	40.2	61.1	78.1	61.4	42.6	60.8
Erie.....	45.4	51.4	58.9	62.9	73.9	78.2	80.5	80.5	75.3	64.8	53.2	47.2	65.2	79.7	64.4	51.3	65.2
Perry..... ...	39.8	55.1	63.2	62.9	74.1	78.2	82.3	78.8	74.8	67.6	58.3	50.9	66.7	79.8	65.3	48.6	65.1
St. John's, Berkeley.....	49.1	58.6	57.5	62.4	70.2	74.8	78.8	77.9	78.1	64.1	55.2	52.1	63.4	77.2	64.1	51.6	64.0
Tropical districts.																	
Havana.....	70.0	71.9	75.7	79.0	82.5	83.1	83.3	83.8	82.0	79.5	75.5	71.7	79.1	83.4	79.0	71.2	78.2
Kingston	75.7	76.0	76.0	78.1	80.2	80.6	81.6	81.0	80.7	79.8	78.7	76.4	78.1	81.1	79.7	76.1	78.7
Barbadoes.....	78.0	78.0	79.1	78.2	79.6	78.1	79.0	78.5	82.1	82.2	81.8	79.3	79.2	78.5	82.1	78.5	79.5
Madeira.....	60.2	61.1	63.4	65.4	67.9	69.4	71.7	72.8	73.1	69.5	65.4	64.2	65.6	71.3	69.0	65.8	67.9
Catania.....	49.3	54.3	56.0	61.0	71.6	78.9	86.5	88.2	78.6	69.2	59.7	54.9	52.8	62.8	84.6	69.4	67.5
Alexandria.....	57.3	57.8	62.1	66.9	70.2	76.2	78.5	80.3	78.1	74.8	68.4	60.4	66.4	78.3	73.8	58.5	69.3
Calcutta.....	69.4	74.2	82.3	87.1	87.2	85.1	84.2	83.6	84.0	82.0	75.7	69.2	85.5	84.3	80.6	70.9	80.3

* Baird upon observations varying from 2 to 18 years.

Mean monthly and annual fall of rain in the sugar and cotton districts of the United States, (inches and tenths vertical depth.)

Places.	No. of years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Spring.	Summer.	Autumn.	Winter.	Year.
Savannah. ..	14	2.6	2.6	4.2	1.9	5.7	4.7	9.4	9.3	4.9	3.1	1.7	3.2	11.8	23.5	9.7	8.4	53.4
St. Augustine.	3	2.1	1.6	2.8	1.1	2.5	3.0	3.6	5.7	2.5	3.0	0.5	2.1	6.4	12.3	6.0	5.8	30.5
Cedar Keys..	2½	2.6	1.8	2.7	1.2	1.1	5.8	10.6	5.5	11.7	3.6	2.9	2.4	5.0	21.9	18.2	6.3	51.4
Fort Brooke..	13	1.8	2.8	3.5	1.7	3.2	6.7	11.2	10.4	7.2	2.5	2.0	2.3	8.4	28.4	11.7	6.9	55.5
Mobile	10	5.7	5.4	3.9	4.4	4.3	6.2	6.3	6.8	2.8	3.1	6.3	5.8	12.6	19.4	12.2	16.9	61.0
New Orleans.	13	6.5	4.4	2.7	4.1	3.4	5.4	6.5	5.5	4.0	2.6	3.5	4.7	10.2	17.4	10.1	15.6	53.4
Fort Brown..	3	1.9	1.9	1.0	0.6	2.4	2.7	1.8	1.9	4.8	4.9	2.5	4.1	4.0	6.4	12.2	7.9	30.5
San Antonio.	3	0.8	4.6	2.9	2.8	3.2	6.3	2.6	0.5	1.9	1.8	2.3	2.9	8.9	9.4	6.0	8.3	32.7
Fort Croghan	3½	1.3	4.0	5.3	4.4	2.8	3.5	2.8	1.3	2.2	2.1	3.9	3.1	12.5	7.7	8.2	8.4	36.7
Fort Towson.	14	3.4	3.1	4.4	5.6	5.5	6.2	5.4	4.0	3.2	4.6	4.6	2.8	15.5	15.6	12.4	9.3	53.0
Fort Jesup...	9	4.4	2.7	4.6	4.7	3.8	4.6	3.8	2.8	2.9	5.1	3.1	4.1	13.1	11.1	11.1	11.2	46.5
Natches.....	8	6.3	4.3	4.7	4.6	5.5	4.9	5.4	3.3	5.2	3.6	4.5	5.8	14.8	13.6	13.3	16.4	58.2
Jackson	3½	5.5	6.1	2.4	5.3	3.2	4.6	6.2	3.4	0.9	2.4	6.2	6.8	10.9	14.2	9.5	18.4	53.0
Vicksburg....	3	9.9	4.2	3.9	3.1	3.0	5.7	2.2	4.8	3.8	3.5	3.9	2.2	10.0	9.5	11.2	16.3	48.4
Memphis.....	3	3.3	6.6	4.2	3.4	3.4	3.1	1.8	2.9	1.5	2.9	3.5	5.1	11.0	7.8	7.9	15.0	41.8
Monroeville..	4	3.6	7.7	4.8	6.5	7.9	5.2	7.7	8.6	1.5	1.6	5.6	4.9	19.2	21.4	8.7	16.2	65.6
Perry	2½	1.4	2.9	2.5	3.5	4.3	3.3	5.1	8.2	1.3	1.5	9.2	3.5	10.3	16.5	12.0	7.8	46.7
Charleston...	10	2.3	3.2	4.5	1.8	4.3	4.3	6.4	7.3	5.7	2.5	1.5	3.1	10.6	18.0	9.7	7.6	45.9

The degree of humiditv and amount of rain may be supposed to be important and perhaps controlling conditions of climate affecting this cultivation. How far they are so, has been but slightly examined by the aid of precise statistics. Though usually flourishing in districts of great humidity, and of a large amount of rain, there is much reason to suppose that those conditions are quit unimportant in their climatic relations merely, and that the high fertility usually attendant upon such climates, or resulting from them in the accumulation of vegetable matter and alluvial soils, is the only thing necessary to the growth of cane. The distinction may be unimportant in the range of the cane in our climates, as, for all districts of the necessary fertility, the aqueous precipitation, at least, is quite large. The narrower range of fertile tracts in the southern interior and Pacific climates would scarcely permit its cultivation, whatever adaptation of climate might be found.

In this reference to the fall of rain and snow, and humidity, cotton is more directly affected than the cane, and the results of observations to the extent of the cotton region, and including that of the cane, are given in a table in connexion with the examination of the range of cotton cultivation.

That humidity, as a condition apart from the amount of rain, is not injurious to the cane in tropical climates, or with tropical temperatures in any climate, is quite apparent from what is well known of its most successful districts. The *tierras calientes* of Mexico, with their saturated atmosphere and profuse rains, for one part of the year, seem equally suited to its growth there, and in the dry season alternating in the same district; and equally with the constantly dry districts of the eastern continent, where it is cultivated. At some periods of the summer, though variably in various years, the local humidity of southern Louisiana becomes excessive; yet it is not noted as injurious, except in such excessive rains as mechanically break and injure the growths.

It may be reasonably inferred that no portion of the southern States in which cane is now grown would be influenced by other conditions than temperature as merely climatic. Fertility, or specific character of soil, as alluvial, or largely abounding in vegetable matter, is doubtless indispensable.

The present limits of actual cultivation of the cane in Georgia reach to 32½° of latitude. The lower portion of the State, to this line, yields a greater or less product of ripened cane, and the chief obstacle to its cultivation, as a staple for export, appears to be the limited area of lands of the proper fertility. But a small share of the lands below 32½° will bear high cultivation in this State, and the actual cultivation of this

staple there attained is only of local importance, except as showing the conditions of climate to be no obstacle.

In Florida, the same remark holds of almost the entire State. Some portions between Cedar Keys and St. John's river, and upon the rivers in that portion of the State, have a higher fertility, and may be made to produce abundantly when estates are generally opened. The climate here rapidly approaches the tropical character, and ceases, south of the latitude of Cedar Keys, to possess the distinguishing features of the principal portion of the cane district in the United States generally.

In western Florida, the limit of the present cultivation of cane falls lower than in Georgia, and only portions of the counties bordering the Gulf are considered favorable to it. It may still be doubted whether this limit is one of climate only, and whether, with a favorable soil, both western Florida and Alabama might not attain to latitude 32½° in an entirely successful introduction of this cultivation.

In Mississippi, little staple cultivation of the cane exists. The south-eastern counties have thin soils, and the greater area of the State east of the immediate vicinity of the Mississippi seems little adapted in soil to the cane. The western part of the State, however, carries the cultivation further north than in any State eastward; and the extreme limit of Holly Springs, near the 35th parallel, has produced successful growths of ripened cane.*

Louisiana is adapted to cane in every part, so far as climate is concerned. The south and centre are pre-eminently favored in soil; yet the excessive rains and the violence of storms occurring before the temperature has fully ripened the cane, in some measure balance the disadvantages of climate, which diminish the product in the colder parts of the State.

In Texas, the northern limit falls off even on the eastern border, and quite rapidly in going westward, in consequence of the general effect of the plains in producing great extremes of temperature. The northers and sudden changes diminish the thermal effect at the lower levels, and on the elevated plains they are still more severe. A line nearly diagonal to the parellels of latitude and longitude from the eastern boundary at 32½°, to San Antonio and Eagle Pass of the Rio Grande, would very nearly limit the country capable of producing the cane. For some portion of this district the extreme temperatures would render the risks too great for reliance as a staple; but for most of it the question of success would depend upon soil and circumstances other than climate.

* Article on "Extention of Sugar Region," in De Bow's Review, for March, 1853.

AGRICULTURAL SURVEYS OF THE SEVERAL DISTRICTS AND COUNTRIES.

The following programme is marked out by Edwin Ruffin, the distinguished agriculturist of Virginia, for conducting agricultural surveys. Though intended for his own State, the principles, with slight modification, may be adapted to any other State:—

GENERAL PLAN AND ARRANGEMENT, AND SOME OF THE PARTICULAR SUBJECTS, SUGGESTED FOR A REPORT OF AN AGRICULTURAL SURVEY OF A COUNTY, OR ANY OTHER AGRICULTURAL DISTRICT.

I. *General features and character of the country in the following respects:*

1. Situation, extent, and natural physical characters and divisions, illustrated by a map of small size.
2. Surface and face of the country, and diversities of elevation and exposure.
3. Climate, and especially any peculiarities thereof, and the causes.
4. Geological characters of different parts, so far as known.
5. Useful minerals, and especially such as are, or may be, valuable as manures.
6. Water, in reference to uses of navigation, irrigation, propelling machinery, &c.
7. Market towns, and manner of, or facilities for transportation of products.

II. *General description and management of lands.*

1. Classes and kinds of soil, and of subsoil, to be designated (when extensive) on the map.
2. Quantities of arable land, of meadow, (not subjected to ordinary tillage, or rotation of crops,) of wood land, swamp, or marsh, and other waste or unproductive lands.
3. Sizes of farms, usual or unusual.
4. The usual crops, of large and of small culture.
5. Rotation of crops.
6 Manner and depth of ploughing, and preparation for and tillage, and general management of crops.
7. Expense of cultivation.
8. Agricultural products proper to be made in the locality, and which are brought from other places, and the extent of such supplies.

III. *General market prices of lands, past and present, and causes of rise or fall in prices. Rates of rent.*

IV. *Drainage and embankments.*

1. Of tide marshes and swamps.
2. Of swamp or other low and wet lands, higher than the tide.
3. Drainage of arable, or high and firm lands, for either surface water or springs, and by either open or covered drains.

V. *Implements and machines for agricultural operations.*

VI. *Fencing and enclosing.*

1. Kinds and costs of fencing.
2. Advantages and disadvantages of the separate enclosing of each field, or each farm, compared to dispensing with either or both; and instead, confining live stock to enclosed pastures, or herding them, especially in reference to hogs.

VII. *Grass husbandry, grazing, and green or vegetable manuring crops.*

1. Natural meadows on moist ground.
2. Artificial (or sown) grasses on permanent meadows or pastures.
3. Artificial grasses, peas, or other green or forage crops, alternated with tillage crops on arable land.
4. Mowing and hay.
5. Crops of grass, peas, or weeds, left to manure the land on which they grew.

VIII. *Live stock.*

1. Teams, or animals for labor.
2. Animals reared and kept for their products, or fattened for sale or home consumption, and their management.
3. Animals purchased from abroad, and general cost thereof.

4. Comparative profits of hogs confined to enclosed pastures, or to sties, and those ranging at large.

IX. *Dairy management and products.*

1. Products consumed or sold.
2. Supplies of butter and cheese from abroad.

X. *Manures.*

1. Cow-yard and stable manure, and other stock supplies. Collection and choice of materials—preparation, application, and effects. Fermented or unfermented manures.
2. Straw, leaves, or other unmixed vegetable matters, unrotted when applied.
3. Peat, marsh, or swamp mud, as manure.
4. Fossil shells or marl.
5. Lime.
6. Any supply of carbonate of lime from other sources.
7. Wood ashes—coal ashes.
8. Bone dust, or phosphate of lime in other materials.
9. Gypsum.
10. Guano.
11. Any earths containing fertilizing ingredients, and fit for manures.
12. Any other neutral salts, or materials containing them, useful for manuring.
13. Composts of different manuring materials.

XI. *Orchards and their products, vineyards, vegetable gardens supplying products for sale generally and extensively.*

XII. *Woodland.*

1. General description of the growth of different kinds of lands.
2. Uses and value of timber and other products.
3. Proportion of farms necessary to be kept under wood.
4. Disadvantages and cost of excess of wood-land to agriculture.

XIII. *Old and bad practices, and new or recently introduced processes or improved practices in agriculture.*

XIV. *Notices or suggestions of new or neglected resources for agricultural improvement.*

XV. *Obstacles to agricultural improvement and profit.*

1. Obstacles opposed by natural and unavoidable circumstances.
2. Obstacles caused by erroneous governmental policy, or by omission of proper legislation.
3. Obstacles caused by individual action or neglect.

XVI. *Unhealthiness of residents, caused by climate and condition of the country and its agriculture.*

1. Local sources of malaria, their extent, operation, and degrees of malignity —such as rapid streams sometimes overflowing the bordering land—tide-water marshes, fresh or salt—swamps, whether in their natural state or when under culture—mill-ponds, and the passage of transient and irregular floods of fresh water over salt marshes.
2. Accumulation of putrifying matters, animal and vegetable, in towns, their injurious effects on health, and the means of rendering them innoxious, and useful as materials for manure.
3. Increase or decrease, and greater or less extent and virulence of malarious diseases, in past time and now, and the supposed causes of change.
4. Means of removing or diminishing the causes of such diseases, within the reach of individual proprietors, and such means as cannot be used without governmental interposition, and compulsory direction.

XVII. *Any other subjects not here indicated, which may be connected with the agriculture or economy of the county or other locality treated of, and of which the discussion would be useful in aid of improvement.*

ADAPTATION OF THE SOUTH FOR FRUIT CULTURE—NO. 2.

Mr. Editor: In my last article, I called your attention to the open field the pursuit of horticulture presents to the people of the planting States, as a source of wealth, and also to the well ascertained fact, that the value of the horticultural products of our country amounts annually to over four hundred and fifty millions of dollars. This immense production, however, is confined chiefly to the northern, middle, and western States. By the census report of 1850, I find that the value of the products of the orchard (not including the garden) of the small State of Massachusetts amounts to nearly as much as the entire products of both gardens and orchards in the vast area covered by the planting States of South Carolina, Georgia, Alabama, Mississippi, Louisiana, and Texas. If, as I contend is the case, both the soil and the climate of the planting States is better adapted to producing a larger yield to the acre of these products than that of Massachusetts, why, you will ask, this general neglect in the South of so important a branch of our industry? The answer, it strikes me, is plain, and easy of solution; and it is, that the South, until very recently, has been entirely dependant upon northern nurserymen for their seeds and their fruit trees. This a matter of grave consideration with us. I do not doubt but the planting States in the last thirty years have purchased from European and northern nurserymen to the extent of many millions of dollars; and the almost universal failure in the growth, and indifferent quality of the fruit from imported trees, has given rise to the belief so prevalent that the soil and climate of the South was unsuited to the production and maturity of the popular fruits.

I grant that the peach may be transplanted from the North to the South, and do well, and in some instances the apple, and that under a favorable combination of circumstances, such as the early lifting of the trees at the North in the fall, short voyages out, and a propitious season for transplanting, that even the pear may have succeeded in some hands; but where one has met with success, thousands have made failures, and have erroniously deemed the climate or soil of the South in fault.

I cannot better illustrate this point than by giving my own experience. Some fifteen years ago I imported from England one hundred trees of the pear dwarfed upon the quince; at that time a great novelty, and not to be procured from northern nurseries. The trees opened sound and healthy, were carefully planted out, and as carefully mulched and cultivated. Most of them, however, died the first summer; some few for years made feeble attempts at growth, and at this day but two trees out of the whole shipment are living, and these have never yet borne fruit; while buds I inserted from these trees into home-grown stocks have made trees of luxuriant growth, and borne fruit worthy the gardens of the Hesperides.

Again: I imported from different northern nurseries in all about one thousand trees; and finding in the first shipments put up with matting in bundles, that rats had barked the roots of most of them, I ordered subsequent shipments put up in tight boxes; paid thirty cents per foot for freight by steamer, but again met with loss and disappointment; for although the trees opened sound, and healthy looking *externally*, the black streak in the pith when the wood was cut, foretold too plainly their fate when planted. Nearly all died, as they had undergone a heating or sweating process in the voyage through the Gulf, and out of my whole importation not one-third of the trees are now living; and such even as have lived, have neither grown so vigorously, nor borne specimens of fruit so large and healthy as I have raised from their scions grafted into native seedlings. *Per contra*—wishing to procure some European varieties of the pear and the apple of great rarity, and knowing that Mr. Affleck of this county had imported the genuine sorts from the famous English nursery of "Rivers," and propagated them upon native stocks, I ordered from his nurseries two hundred trees of the pear, and one hundred of the apple, and out of this order I lost but a single tree; all grew off luxuriantly, and many of them have borne fruit which may be equalled, but not excelled, in any region of our country. In looking over the Patent Office Reports for the answers to the inquiries upon the subject of fruit growing in the South, I find complaints of northern trees noted in every volume.

Mr. Van Buren, of Georgia, states as follows: "Southern-raised trees succeed much better, come into bearing sooner, and are more durable than those imported from northern nurseries."

Mr. Morton, of Virginia, says: "Northern trees, however fine their fruit in their appropriate climate, seldom yield good fruit here. I have twelve or thirteen acres in fruit trees, and while I do not believe I have lost one native tree by the weather, several of northern origin die annually—most of them die from the freezing of the sap bursting the bark from the wood, which happens in hard weather, after one of the warm spells in winter."

Mr. Whitfield, of Hancock county, in our State, asserts that thirty thousand dollars have been thrown away in that county in the importation of fruit trees from the North. This view of the subject is corroborated by Mr. Chisholm, of South Carolina, and Mr. Harwell, of Alabama, and indeed by all the horticulturists of any eminence in the southern States, whose opinions have been made public.

If it is so plain, then, that the want of success in the South, in fruit culture, has been mainly owing to our dependence on northern nurseries, it is no less plain that the remedy will be the establishment and support of nurseries in the South. The States of Georgia and Alabama have several flourishing nurseries, and the public spirit of such men as Mr. Affleck, and Col. Hebron, and Mr. Lambert, and no doubt others unknown to me, has given to our State a large supply of home-grown trees; and although these gentlemen may not reap the profits they deserve, still they will enjoy the grateful satisfaction of knowing that they have been public benefactors.

In this connexion, allow me to make a few remarks upon the subject of *acclimating fruits in the South*. It is well known that all our popular fruits originated in climates as warm as our own. The peach, the apricot, the cherry, the pear, and the apple, are all of them natives of warm regions in Asia and Europe. It was the skill and cultivation of the ancient Greek and Roman that first subdued the harsh and sour crab into the mellow, crisp, and breaking apple; the bitter and austere mazzard into the fleshy, luscious, and nectared cherry. The Romans, in their burning climate, two thousand years ago, successfully cultivated no less than thirty-six varieties of the pear, twenty-two varieties of the apple, and eight kinds of the cherry. Upon the overthrow of the Roman empire, and the advance of civilization into more temperate latitudes, these fruits were gradually introduced and in time acclimated to colder regions.

In the animal kingdom, we find that when man or the domestic animals are transported from a cold to a tropical latitude, exercise is attended with extreme fatigue and the important functions of the body deranged; and it is not until they undergo a period of seasoning, or acclimation, as it is called, that they can brave the climate with impunity, or exert the prolonged strength of the native. And so in the vegetable kingdom; a tree grown in the cold regions of the North, with its dense woody fibre, and constricted sap-vessels, when transported and exposed to our burning sun, is unable, from the texture of its wood and circulatory system, to radiate through the leaves, and effect through them those changes in the sap necessary to the deposit of woody fibre.

If a section is taken from one of our forest trees, say the sassafras or the locust, the annular rings will be found to be twice the width, and the calibre of the sap-vessels doubly as large, as in the same species of tree grown in a cold climate. However, then, the philosophic may speculate as to the cause, the fact is undeniable, that a tree grown from the seed of an exotic fruit, or a bud from such tree inserted into a native grown stock, will grow off more luxuriantly, and bear fruit of a healthier character, than any northern tree transported to our climate. In support of these views, I have noticed that the few varieties of the pear and the apple which were introduced into this county by the early Spanish colonists, and first grown from seed, and continued by repeated grafting in native stocks, are remarkable for the healthy and vigorous growth of their wood; the exemption of their fruit from rot, and its holding on to the tree to full maturity, which is rarely the case in trees not fully acclimated.

The late Mr. Downing, in a private correspondence with the writer about ten years ago, upon the subject of acclimation, and after learning the character of our climate and the mineral constituents of our soil, predicted that our planting States would, in time, originate *new varieties* of fruit, rivaling those of temperate latitudes, and that even exotic sorts would be found to improve by grafting or budding the same variety through successive generations upon native stocks. In confirmation of his opinion, the horticulturists of Georgia have described and brought to light about twenty native varieties of the apple, many of which hav

been classed as "best" by the fruit conventions at the North. In our State, I have learned of several excellent varieties of fruit cultivated in perfection fifty years ago, but which, from change in ownership of property, have died out, and been lost from want of attention to propagating them; and in our own county, I have discovered an early pear, ripening in May, of the highest excellence, and no doubt a native seedling fruit.

Fearing I may be occupying too large a space in your columns, I will defer to another number a notice of such varieties of fruit as have succeeded best in my locality, together with some practical remarks upon their culture.

RUSTICUS.

STATE FAIRS IN 1854.

The American Cotton Planter publishes a list of the State fairs held in 1854, which we annex. It will be seen from it how the spirit of enterprise extends all over the Union, even into the States which were but yesterday forests, and how much there is of encouragement in the progress of American agriculture and of the arts which are germane to it:

LIST OF STATE FAIRS FOR 1854.

Ohio, Newark, Oct. 17 to 20.
Michigan, Detroit, Sept. 26 to 29.
Illinois, Springfield, Sept. 12 to 15.
Indiana, Madison, Oct. 4 to 6.
Iowa, Fairfield, Oct. 25.
Wisconsin, Watertown, Oct. 4 to 7.
Pennsylvania, Philada., Sept. 27 to 29.
New York, New York city, Oct. 3 to 6.
Vermont, Brattleboro', Sept. 12 to 14.
New Hampshire, Keene, Oct. 3 to 6.
Geo., (S. Cen.,) Augusta, Oct. 25 to 28.
Connecticut, New Haven, Oct. 10 to 13.
Maryland, Baltimore, Oct. 3 to 6.
Missouri, Brownville, Oct. 2 to 6.
Kentucky, Lexington, Sept. 12 to 16.
North Carolina, Raleigh, Oct. 17 to 20.
Tennessee, Knoxville, Oct. 18 to 20.
Virginia, Richmond, Oct. 30 to Nov. 3.
Mississippi, Jackson, Nov. 8 to 9.

National Cattle Show, Springfield, Ohio, October 25 to 27; United States Pomological Convention, Boston, ———; Southwestern Agricultural Society, Louisville, Kentucky, October 10 to 13.

We regret that we are not able to chronicle any State society fairs for Alabama; but we will state, for the benefit of those who may be interested, the following county fairs, and the time they are to be held:

Autauga county, Robinson Springs, November 7, 8, 9; Chambers county, Milltown, October 26, 27, 28; Pickens county, Pickensville, December 7.

THE GEORGIA AGRICULTURAL FAIR.

The Ninth Annual Fair of the "Southern Central Agricultural Society," which has just closed, in this city, was (considering all the discouragements and drawbacks which attended it) an unmistakable and decided triumph. In the live-stock department, especially, the quality of the animals shown has never been surpassed in the South, nor was the quantity or number of fine horses, cattle, sheep, &c., in any way inferior to previous exhibitions. The poultry department, especially the show of the large Chinese and India varieties, was far superior to anything of the kind ever before seen in the South, and we believe in the Union.

The household, ladies, domestic manufacturing, horticultural, and mechanical departments were also well filled, and the show of field crops was truly remarkable, when we remember the very favorable character of the past season.

Upon the whole, we may congratulate the society upon the extensive and interesting exhibition which has just concluded, and doubt not that, under more auspicious circumstances, their future fairs will steadily and progressively improve.

Knowing that all hastily-written reports must necessarily be imperfect, we have not attempted any during the progress of the fair. We will endeavor, however, to publish the official list of premiums, &c., as soon as it can possibly be obtained.—*Augusta Chronicle.*

WHITE HAIR AND NEGRO WOOL.

At a recent trial in South Carolina, in which the point in dispute—property in a mulatto girl—rested on a question of race, Dr. Gibbs, an accomplished ethnologist and physiologist, gave the following interesting evidence with regard to the hair of different races.

"He handled a negro skull, and demonstrated clearly the peculiarities, and showed by comparison the marked difference between them. He explained the difference between the anatomical structure of different parts of the body, and gave an interesting account of the distinction in the hair of the Circassian, Indian, and negro races. He stated a very curious fact, as resulting from microscopical observation, that in the mulatto cross, the hair of one or the other parent was present, and sometimes hair of both, but never a mongrel hair. He stated that the microscope revealed that the hair of the white race was, when transversely divided, oval, that of the Indian circular, and that of the negro eccentrically elliptical, with flattened edges; that it was not hair, but wool, and capable of being felted; that the coloring matter of true hair was in an internal tube, while in the Negro it was the epidermis of scales covering the shaft of the hair.

"In corroboration of his statement that both white and negro hair were sometimes found in the same head, he mentions a singular case. He stated that he once attended a half-breed Indian and negro, who had straight Indian hair. He had his head shaved and blistered. On his recovery, when his hair grew out, it was negro hair—crisped and wiry."

OUGHT OUR SLAVES BE TAUGHT TO READ?

The affirmative is argued by the author of the address before the Abbeville Bible Society at its recent anniversary; we are on the negative. As far as our means of information extend, the advocate has entirely misapprehended the grounds of that legislation which "enacts that slaves shall not be taught to read." He has, moreover, simply attempted to disprove the negative of his proposition, forgetting that the affirmative is without proof. We might here rest our cause, and wait for the affirmative to be argued; but we insist that the laws in question are imperiously demanded by a regard to public safety, not because "slavery is most compatible with a state of profound ignorance," but because instead of reading the bible, slaves would have placed in their hands those "other documents, books, and papers" inculcating insubordination and rebellion, and thus placing the lives of our families in imminent peril. If with the ability to read you could impart true religion, or even a desire or disposition to read the bible, the danger would be largely diminished. But if a judgment may be formed from the known conduct of white readers, we may reasonably conclude that the great majority of the blacks would prefer other books than the bible.

Is there any great moral reason why we should incur the tremendous risk of having our wives and children slaughtered in consequence of our slaves being taught to read incendiary publications? Religion is as important to the slave as to the master; the soul of the one is as valuable as that of the other—but is the ability to read essential to salvation? Is the reading of the bible so important a means of grace, that to hinder a person from being taught to read it, is equal to his exclusion from the religion of the bible? Is their no other means of preaching the gospel except by the printed page? The only answers which can be given to these questions will at once expose the fallacy which underlies the whole groundwork of the discourse referred to, and it is the same fallacy which gave direction to the action of the A. B. C. F. M. in relation to the Choctaw nation. Many very pious persons, many in possession of large stores of biblical truth, were never able to read a single line in the sacred volume. Millions of those now in heaven never owned a bible. To read is a valuable accomplishment, but it does not save the soul. But few persons, comparatively, are converted by their private reading; the word preached is the usual means of grace which the Holy Spirit blesses to the conversion of sinners. The press may aid the pulpit, but we must not

give it pre-eminence over the heaven appointed instrument for the salvation of men.

The author, we fear, has not taken much pains to inform himself upon many collateral issues he has raised in his address. He seems to be uninformed of the fact that the scriptures are read in our churches every Sabbath day, and those very passages which inculcate the relative duties of masters and servants in consequence of their textual connexions are more frequently read than other portions of the bible. We are convinced that it is incorrect to say that the pulpit is silent upon this point, so far as it is a practical question in morals and religion.

We are amazed that any person should speak as our author has done in his last paragraph, who, in the very declarations he makes, shows himself so utterly unacquainted with church statistics. We say it without fear of successful contradiction, that there are more pious persons among the blacks than among any similar class in the world.—*Southern Presbyterian.*

THE RICHEST MAN IN VIRGINIA.

Samuel Hairston, of Pittsylvania, says the Richmond Whig, was, a year or two ago, the owner of between 1,600 and 1,700 slaves, in his own right, having but a little while before taken a census. He also has a prospective right to about 1,000 slaves more, which are now owned by his mother-in-law, Mrs. R. Hairston, he having married her only child. He now has the management of them, which makes the number of his slaves reach near 3,000. They increase at the rate of near 100 every year; he has to purchase a large plantation every year to settle them on. A large number of his plantations are in Henry and Patrick counties, Virginia. He has large estates in North Carolina. His landed property in Stokes alone is assessed at $600,000. His wealth is differently estimated at from $3,000,000 to $5,000,000; and I should think it was nearer the latter. You think he has a hard lot, but I assure you Mr. Hairston manages all his matters as easy as most persons would an estate of $10,000. He has overseers who are compelled to give him a written statement of what has been made and spent on each plantation, and his negroes are all clothed and fed from his own domestic manufacture; and raising his own tobacco crop, which is immensely large, as so much clear gain every year, beside his increase in negroes, which is a fortune of itself.

And now for his residence. I have travelled over fifteen States of this Union, and have never seen anything comparable to his yard and garden, except some of them in the Mississippi delta, and none of them equal to it. Mrs. Hairston has been beautifying it for years; and a good old minister, in preaching near the place, and describing Paradise, said "it was as beautiful as Mrs. Hairton's;" or, as a friend who had visited Washington city for the first time, remarked, that "the public grounds were nearly as handsome as Samuel Hairston's." He is a plain, unassuming gentleman, and has never made any noise in the world, though he could vie with the Bruce's, the McDonough's, and Astor's; and it is strange, that while their wealth is co-extensive with the Union, he is not known 100 miles from home. I believe he is now the wealthiest man in the Union, as William B. Astor is only worth about $4,000,000, and the estates of city people are vastly overrated, while Mr. Hairston can show the property that will bring the cash at any moment.

Mr. Hairston was raised within a few miles of where he now lives, in Henry county. He has several brothers, who are pretty well to do in the world. One of them, Marshall Hairston, of Henry, owns more than 700 negroes; Robt. Hairston, who now lives in Mississippi, near 1,000, and Harden Hairston, who has also moved to Mississippi, about 600 slaves. George Hairston, of Henry, has given most all of his property to his children, reserving only about 150 slaves for his own use. This, I believe, is a correct statement of the circumstances of the Hairston family.

AGRICULTURAL CAPACITIES OF WESTERN TEXAS.

After you cross the Brazos bottoms, with the exception of the lower Colorado and coast, the country is by no means adapted for successfully producing sugar and cotton on an extensive scale, because, without referring to the remote position from market and the valleys west of the Brazos, it is only occasionally you realize large bodies of bottom land, similar to those which are readily found in almost any part of the Brazos river.

And even then, the land is not so productive, and I venture to assert, that every unbiased man, who examines and compares the productions of the Brazos bottoms with those west of them, will be necessarily compelled to admit that, as a sugar and cotton growing country, they justly claim the palm of the whole State of Texas. The soil is the most alluvial I ever observed, and, in many instances, surpassing the Mississippi and Red river flats. It is more easily tended, for one hand in these bottoms can raise as much as three in any other section of the country I have noticed. Another consideration no less important than the preceding—servants enjoy as good general health as in any part of the State. I visited several plantations and I never witnessed healthier and more contented negroes; indeed they seemed, from their merry songs on retiring from their labor, as happy as the long summer's day.

I inquired of different planters, who worked not less than from fifty to sixty hands, the amount of their physician's bill, and I assure you I was truly surprized when they informed me from $60 to $75 per annum. Some of them I was personally intimate with in Eastern Texas, whom I knew paid annually from $300 to $400, and they told me since their removal to the Brazos their yearly medical bill had never exceeded $50.

Above and below the thriving town of Washington, on the Brazos, for many miles the cotton, corn, and every other vegetable substance seem to overload the earth, and when I viewed the fields and saw the corn and pumpkins rotting, and the hogs so fat that they could scarcely wallow, and passing the plump ears of corn, and large orange-colored pumpkins without regarding them, I almost thought it was a wanton waste of nature, and a crying pity that the soil should be so prolific.

The lower Brazos, together with the lower Colorado, is one of the greatest sugar growing countries in the State. In this portion there are sugar planters of enterprise and capital, who are soon to bring it into favorable competition with Louisiana. Yet, from what I have seen, I should not be the least surprised, as soon as a more general state of cultivation is introduced, if it excelled the most favored sugar districts of Louisiana.

I examined the Colorado valley, above La Grange, and I found occasionally a fine body of land not subject to overflow; it is precisely the same on the San Marcus, Gaudaloupe, and on many other streams west; but the Brazos bottoms, as an extraordinary sugar and cotton country, has only to be viewed to dissipate the shadows of unbelief, and I am altogether satisfied that the season is rapidly approximating when the lower Brazos for producing sugar, and the higher districts for cotton, will be esteemed the sugar and cotton sections of Texas. At this period lands are held at a nominal price, but in a few subsequent years I see no substantial reason why they should not command as high a rate as any in Mississippi or Louisiana.

The facilities which many of the planters will shortly possess, on the consummation of the Houston railroad—that is progressing towards completion, and is contemplated to ascend as far as Fort Graham—will afford them the convenience of expeditiously transporting their produce to market, to obtain the advanced price, on an equality with some of the older and more favored States.

The Brazos bottoms are heavily timbered, having every variety necessary for building, fencing, and other plantation purposes. It chiefly consists of sycamore, hackberry, mulberry, china elm, and box elder; and at the mouth of the Brazos river are some of the largest description of cotton-wood trees, and for several hundred miles from its termination towards its source, there is commonly but a limited change in the general appearance which it assumes, with this minor exception, the further you proceed up the stream, the land becomes more elevated; nevertheless, the soil uniformly exhibits the same rich aspect with the bottoms, varying

from six to ten miles in width. This river is considered navigable for 350 miles at least. During a moderate stage of water, steamboats have ascended this distance and descended in safety.

It has many tributary rivers, creeks, and rivulets; some of the more considerable on the west are Oyster bayou, New Year's creek, Yeou river, Cedar creek, Little river, Deer creek, Bosque, &c.; and on the east Nolen's river, Aquilla river, Big creek, Navasota, &c. The Little Brazos runs a south direction until it approaches the great Falls of the Brazos, from thence it takes a course parallel with the main river, wherein it empties about one mile below Mr. Mosley's plantation. These small rivers and creeks flow through a section of bottom lands, which, as concerns the producing of cotton and corn, are inferior to none on the North American continent, and as soon as they are more generally known to planters possessing means, their intrinsic worth will be fully appreciated.

The table lands on the Brazos are really a curiosity; they commence one hundred miles above Comanche Peak; the soil is of a greyish color, and in some spots indicating that there is concealed beneath it vast mineral treasure; in other places it produces the most luxuriant grass and herbage, on which may be seen grazing herds of mustang horses. These levels are partially timber and prairie, and extending from five to six miles on each side of the river, then a mountain with abrupt precipices and rugged defiles intervenes, which, when you cross over, the same scenery invites your attention for a distance of fifty miles. Deer, wild turkeys, and other game are here in abundance; but this is the case on almost any point of the Brazos; in fact, during the two weeks I remained with Col. Thomas D. Wilson on his plantation, I was satiated with venison, turkeys, and ducks.

WHY THE FARMER SHOULD GIVE HEED TO THE MAN OF SCIENCE.

The following judicious remarks form the conclusion of an able lecture by Prof. TUOMEY upon chemistry as applied to agriculture:

In conclusion, allow me to say one word upon the apparent indifference with which agriculturists, as a body, listen to the teachings of science.

Rural pursuits are far less favorable to speculative states of mind than those of the manufacturer, and hence whilst the latter has pressed chemistry into his service, the cultivator of the soil is too often contented to pursue his own chance-directed processes unaided by the light of science.

This unnatural divorcement of science and agriculture has often arisen from not distinguishing between agriculture as a *science* and agriculture as an *art*. The man of science investigates one department, and the cultivator of the soil practices the other. Odium is often brought upon what is called scientific farming by the failure of men of science when they attempt the practice of agriculture. Now, I believe that, in general, it will be found that it was not the science but the common sense of such men that was at fault. The practice requires a different training, and however sound his principles, the mere man of science fails for want of it when he attempts to try his own principles practically. Liebig, I apprehend, would make but a sorry ploughman, yet the world has listened to his teachings. In all the arts of civilization this division of labor is recognized. The anatomist points out, from his knowledge of the hoof, the best mode of shoeing horses, but no one would think of employing him to put his own principles in practice. The chemist informs the tanner of those substances that contain the largest amount of tannin, and explains the rationale of all his processes, yet the chemist is rarely expected to be able to produce leather from the raw hide, nor is the utility of knowledge called in question on this account.

Now, let this but be properly understood amongst us, and there will be an end to the sneers at "book-farming," nor shall there be any longer cause to complain of the proverbial tardiness with which practical agriculturists avail themselves of the discoveries of chemical science.

It only remains for me, in conclusion, gentlemen, to bid you God speed in the great work that you have commenced, of constructing for the south a southern system of agriculture; everything around you calls for it—your climate, not less

than your staple productions, calls for it. You can scarcely apply to your soils the experience of any other country. You must conduct experimental researches for yourselves, and upon these, guided by the willing hand of science, you may erect a system that will elevate the agriculture of our country to the position that nature has plainly indicated the south should occupy.

VINEYARDS OF THE OHIO.

The following was prepared by R. Buchanan, esq., for the Columbian, and condenses much useful information upon the Grape culture and manufacture:

At your request I present you with the following account of this year's vintage in the vicinity of Cincinnati, and statistics of vine culture in the west, prepared from data in the possession of the Cincinnati Horticulture Society and the Wine Growers' Association of this city, and from my own personal knowledge and observation. It may be relied on as nearly accurate.

Within a circle of twenty miles around Cincinnati, about 1,200 acres are planted with the vine, some 800 acres of which were in bearing this year, and produced on an average 400 gallons to the acre—an aggregate of 320,000 gallons of wine. Some of the best vineyards yielded 600 to 800 gallons to the acre; but others, in localities where the "rot" prevailed, did not average over 150 gallons per acre. The season was considered very favorable, and the crop unusually large.

The *new* wine sells at $1 to $1 10 for the best, 75 to 90 cents for second quality, and 40 to 50 cents per gallon for inferior, The average yield for a series of years may be safely estimated at 200 to 250 gallons to the acre from the vineyards in this vicinity.

Product of a few of the vineyards the present year:

Sebastian Blintz,	5½ acres,	5,300 galls.	Jacob Mument,	1½ acres,	1,224 galls.
T. H. Yeatman,	7½ "	5,600 "	R. H. Houges,	1 "	830 "
H. Duhme,	16 "	10,000 "	R. Buchanan,	5 "	4,236 "

Dr. Rehfus, David Ross, Mr. Brandt, Mr. Sleath, and some others, make about the same average. This shows what the vine can be made to produce in good seasons by careful attention and judicious cultivation.

Estimated number of acres in vineyard culture in the

OHIO VALLEY.

	Acres.
Cincinnati and vicinity	1,200
Ripley "	110
Maysville, Ky. "	50
Louisville "	30
Vevay, Indiana "	20
Charleston "	180
Intermediate places	110
	1,700

MISSISSIPPI VALLEY.

	Acres.
St. Louis, Mo., and vicinity	40
Hermann "	450
Belleville, Illinois "	20
Other places	50
	560

Wine Cellars of Cincinnati and vicinity.—Sparkling wines, bottled for 1853, and estimated for 1854:

	Cellars.	1853. Bottles.	1854. Bottles.
H. Longworth	3	151,000	200,000
G. & B. Bogen	2	39,000	50,000
M. Werk	1	10,000	30,000
McConkey & Morsell	1	26,000	
Corneau & Son	1	5,000	
Total	8	231,000	280,000

Still Wines.	1853. Bottles.	1854. Bottles.
Longworth & Zimmerman	75,000	80,000
G. & B. Bogen	10,000	20,000
McConkey & Morsell, L. Rapposa, T. H. Yeatman, Corneau & Son, H. H. Southgate, J. D. Park, and others, supposed	120,000	
Total	205,000	

What is not bottled is sold by the cask in this city and elsewhere, generally within a year or two after it is made, at from $1 to $1 50 per gallon. So great

has been the demand for these wines that it is difficult to find any *old* wine for sale. The consumption keeps pace with the production, and instead of the increased cultivation reducing prices, they are rather on the advance.

It may be safely assumed that this branch of agriculture will ere long take rank as an important item in American industry.

Many persons believe that the introduction of pure light wines of native growth, at cheap rates, will do more to aid the cause of temperance than stringent legislative enactments; but this is a matter of opinion, in which, of course, the *ultra* temperance men will not coincide.

Vineyard Culture, Statistics, Position, and Soil.—A warm hill-side, a ridge, or any undulating surface, is preferred to a flat one, and a dry calcareous loam, rather than a rich soil. Good under drainage is essential.

Planting, &c.—The ground is trenched with the spade, two feet deep, or worked deeply with a sub-soil plough. Cost of spading $50 to $150 per acre; of ploughing much less.

The vineyard is planted in April, with cuttings ($2 50 per 1,000) or roots one year old, (cost $25 per 1,000,) usually three feet apart by six feet in the rows; 2,420 vines to the acre.

Culture.—The first year after planting, in March, the vine is cut down to a single eye, or bud; the second year to two, and a stake six or seven feet long driven down by each vine; the third year a small crop may be expected; and the fourth year a good one. The ground is kept clean with the iron plough, or cultivator, the vines tied up to the stakes, and superfluous shoots removed. After the fourth year the *bow* and *spur* system is adopted.

The vine bears no fruit on the wood of the preceding year's growth; two shoots are always trained for bearing the ensuing year. One of these is cut down in the spring to six or ten joints, and bent in the form of a bow, and fastened to the stake with a willow tie. This is to bear the fruit. The other is cut back to two joints, as a *spur*, to produce bearing wood for the next year, and also a few bunches of grapes. Summer pruning and hoeing requires prompt and judicious attention. A bushel of grapes in bunches will weigh about forty-five pounds, and the average yield of juice is three and a half gallons to the bushel.

The whole cost of a vineyard up to the fourth year will range from $200 to $550 per acre.

Gathering the fruit and making the wine may form subject-matter for another article, if desired. The Catawba is our *great* wine grape. Scarcely any other variety is now planted here. It is a native of North Carolina, was introduced into notice by Major Adlum, at Washington city, and by Mr. Longworth, in the west, thirty-three years ago. Of this grape we make two kinds of wine, the sparkling and the still or dry wine. The first resembles Champagne, and to make it requires very deep, well-arched stone cellars, large casks of 1,000 to 5,000 gallons, the supervision of an experienced wine cooper from Europe, and a large outlay of capital. The effervescence in this wine is caused by arresting the second fermentation, and sweetening with sirup of rock candy. It takes a year to ripen, and the usual breakage is about ten per cent. The price is $12 per dozen.

The still wines are generally the pure juice of the grape, without any admixture. The bottling requires but little art, and the wine will keep sound in any good, common cellar. The cost is $5 to $8 per dozen, as to quality.

PLANTATION MANAGEMENT.*

For reasons not necessary here to state, (but will state them at some other time, if any one desires it,) I will give you a correct statement of my crops for the last five years—the number of bales and pounds of cotton, and number of bushels of corn and other articles made and sold. [I will state here, that I have always reserved enough to feed and keep everything on the plantation in good order.]—My employer has sold the crops of cotton at four prices, except the last,

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*From *The American Cotton Planter.*

which is now on hand, and I have no doubt he will sell it for a fair price. The other articles I have sold, received the money, and paid the expenses of the plantation, &c.

1849.—170 bales cotton—102,276 lbs. gin cotton—

"	558 bushels corn, at...	$418 00
"	551 lbs. bacon hams...	84 00
"	199 " lard.....	19 00
"	4,280 " fodder.....	42 00
		$563 00

1850.—181 bales cotton—95,103 lbs. gin cotton—

"	2,164 bushels corn, at..	$2,164 00
"	3,322 lbs. bacon hams..	398 00
"	1,620 " lard.....	102 00
"	148 bushels oats.....	86 00
"	20,000 lbs. "	100 00
"	110 bushels peas.....	110 00
		$2,960 00

1851.—172 bales cotton—94,660 lbs. gin cotton—

"	3,690 bushels corn, at...	$3,109 00
"	3,626 lbs. bacon hams...	466 00
"	684 " lard.....	85 00
"	40,000 " oats.....	200 00
"	30 bushels potatoes ..	15 00
		$3,875 00

1852.—229 bales cotton—130,000 lbs. gin cotton—

"	2,900 bushels corn, at...	$1,740 00
"	2,963 lbs. bacon hams...	372 00
"	321 " lard.....	35 00
"	200 bushels oats.....	150 00
"	3,000 lbs. fodder.....	30 00
		$2,327 00

1853.—216 bales cotton—114,480 lbs. gin cotton.

I have about forty hands that go to the field. You will see, by making the calculation, that I have made about 2,666 lbs. of gin cotton to the hand, for years; and about $48 57 per hand, for years. The above was the weight of my bales when packed. They may have lost some when they got to market.

If you think the above worth publishing in your valuable paper, give it a showing. If not, let it pass.

Yours, respectfully,

AN OVERSEER.

MARYLAND STATE AGRICULTURAL SOCIETY.

The trustees of the Maryland Agricultural Society for the Eastern Shore very liberally offer premiums for sundry experiments, as follows:

"Whereas, it is of primary importance to the producers of wheat and corn to ascertain definitively, if possible, the relative products of wheat when propagated in the various modes now in use, and also the relative effect of a ridged and level surface, as left by the wheat crop upon the succeeding crops of grass and corn; and whereas, to accomplish this object fully and satisfactorily, it is deemed expedient to offer such premiums as will probably induce many to incur the trouble and cost of the necessary experiments; it is therefore—

"*Resolved*, That this society will unite with the Maryland State Agricultural Society, and such county societies as may be in existence in this State, in offering a premium of $150, to be awarded in the autumn of 1855, for the best conducted experiments that shall exhibit the comparative results of propagating wheat—by drilling on a level surface—by drilling on a ridged surface, lengthwise the ridges—by sowing broadcast upon a level surface—and by sowing broadcast in ridges or narrow lands.

"*Resolved*, That this society will unite with the aforesaid societies in offering a premium of $150, to be awarded in December, 1857, for such continuation of observations as will most conclusively prove the effects of the said modes of culture for wheat—that is, the effect of a flat and rigid surface—upon the crops of grass and corn which may follow.

"*Resolved*, That this society will contribute the sum of $26, provided the afore-

said societies will contribute the balance required for the above-named premiums, the said experiments to embrace not less than five acres of each mode of culture.

"NOTE 1.—In the grass crop the apparent difference, if any, is all that need be noted and reported. It will be required that the relative cost of the different modes of culture shall be reported with at least proximate accuracy; also, the description of soil, quantity of seed-wheat per acre, date of drilling and sowing, distance between the drill-lines, and observations of the appearance or condition of the crops at various stages of their growth.

"It is suggested that the width of the narrow lands or ridges to be drilled shall equal the width of the drill, which is generally, probably uniformly, five feet; because on such ridges the drilling can be executed with accuracy; whereas if the ridges shall be narrower or wider than the drill, the team will have to be altered in its position on the ridges at each through, and therefore cannot be driven accurately; and drills will also be made at frequent intervals in the bottoms or middles of the furrows. Ridges of five feet can also be reaped with accuracy and facility by reaping-machines, because the latter are generally of the same width. If the land is in sod, ridges of five feet in width can be more deeply and thoroughly ploughed into ridges again for corn than those of the ordinary width of four feet, and the width proposed is probably as well suited in all respects for the production of corn as any other width of what are termed *narrow lands*.

"It is also suggested that where surface-drains or water-furrows are necessary in land to be drilled, such furrows should be made previously to the drilling, and should be again cleared subsequently to the drilling."

This offer is issued by Mr. M. Tilghman Goldsborough, the efficient president of the society. Mr. G. resides at Ellenborough, near Easton.

FARMING IN VIRGINIA.*

"Rockbridge county is situated in the valley of Virginia, near the centre of the State. As you are no doubt aware, the valley, from near the Tennesee line to Harper's Ferry, boasts of as fine lands as are to be found in the State. Much of this land is in a high state of cultivation, producing heavy crops of corn, wheat, rye, oats, and buckwheat, with almost every culinary vegetable. There are also many fine grazing farms, on which are raised fine cattle, substantial, and some fine, horses, Cotswold, Southdown, Saxony, Merino, and other sheep, with fine hogs of the different breeds. Much of our stock is driven to the Richmond, Baltimore, Philadelphia, and New-York markets.

There has also been a good deal of attention paid to fruit culture in late years, and we will soon have abundant supplies of apples, pears, peaches, nectarines, apricots, plums, prunes, damsons, strawberries, gooseberries, &c. Apples grow well every where, but some of the other varieties do not succeed so well on stiff clay soils. The county of Rockbridge, and other counties lying further south, produce all the above varieties in perfection, when properly cultivated.

So far as my knowledge extends, there are not many dairy-farms in the valley. There are, however, some, which I learn pay well. Butter of fine quality, and in considerable quantities, is made, which finds a ready market in Richmond, Va.

The Central railroad, now almost completed from Richmond to Staunton, 120 miles, will, in a month, give us ready access to market. This road is pushing west to the Ohio River, and it is said will be completed in the next three or four years. It will pass by Covington, where it will meet the James River canal. These two improvements will open up unbounded stores of mineral wealth in our western mountains; and when once completed, will throw an immense trade into Richmond, in connexion with the Tennessee and South Side railroads; a new era will dawn on the cities of Richmond, Norfolk, and Petersburg.

There is now in progress a canal from the James River to Lexington, our county seat, a distance of about 20 miles on the water line. About one half of this canal will be in operation this spring, and it will probably be completed in the next year, 1855, and it is thought it will pay well. The North River, on the line of this canal, and above, affords very fine water-power. Indeed, our county boasts of almost unlimited water-power, being watered on the south by the James

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*From *The Plough, the Loom, and the Anvil.*

River, Buffalo, Collier's Creek; the North River, near the centre of the county; Hay's, Walker's, and Moffett's Creeks, and the South River running along the base of the Blue Ridge, with other smaller streams, offer sites to small capitalists for every branch of mechanical labor.

Our lands vary in quality from the finest bottoms, worth $100 per acre, to mountain lands at 10 cents. There are no arable lands worth having that can be purchased for less than $5. From this price up; $10, $15, $20, $30, and $50, for our best up-lands, well adapted to corn, wheat, and rye. As you approach the James River, some tobacco is cultivated, but it is not one of our staples. There are many good flouring mills in the county, and much of the wheat raised here is of very superior quality, weighing often 66 lbs. per bushel; rarely falling below 60 lbs. per bushel. The flour manufactured in our valley is generally of superior quality; the yield being 20 barrels per hundred for Mediterranean wheat, to 22 and 23 barrels for fine white wheats, per hundred bushels. Our best wheat-lands, under fine cultivation, yield 40 bushels per acre. Good farmers get an average of 20 to 25 bushels, and poor farmers fall as low as 5 bushels per acre. Of corn the same may be said; all depends on proper cultivation and quality of land; from 10 bushels up to 100 bushels per acre have been raised.

Before closing this communication, I will say a word about our servants, as many persons at the north labor under mistaken views on this subject. The servants of the landed proprietors in the valley of Virginia are as well fed, housed, and clothed, as the laboring classes of any other community. If it were not our duty, it is our interest, to see that they are properly cared for. Almost every family of servants have their house, beds, and bedding. They are regularly worked, and called to their meals, where there is always plenty, morning, noon, and night; and during the harvest months, many farmers send out an evening-piece, between 4 and 5 P. M. They very often work with their masters, and fare as well. If sick, medical aid is always afforded, and they are carefully nursed. They are rarely compelled to work in bad weather; and always have a patch to work for themselves, if they wish it. Many of them spend their nights, till bed-time, in making baskets, mats, and brooms, &c., for their own benefit. All who wish it, are allowed to attend the preacher of their own choice, on every Sabbath; and in communion seasons have Saturday to attend church.

I have no hesitation in saying that they are infinitely better off than the free negroes amongst us, and as a mass are better fed, housed and clothed than many of the poor white families in our community. They are generally much attached to the families in which they live, and good servants always take an interest in the prosperity of their owners. When servants become old, and unfit to work, the master is bound by the laws of the State to take care of them as long as they live.

There are some exceptions to this general rule, and you will sometimes find hard masters, even when they have white servants.

Your obedient servant,

HENRY B. JONES.

Brownsburg, Rockbridge Co., Va., Feb. 4, 1854.

ECONOMY IN SUGAR MAKING.—We would call the attention of the sugar planters to Thompson's "Bagasse Burner," now in successful operation on Messrs. Gossett and Johnson's plantation, Nineteen Mile Point. By this furnace the green bagasse from the mill is freely burnt without the aid of wood or blowers, furnishing sufficient steam for running the engine and other purposes. Those interested and desirous of seeing the furnace in operation can do so by taking a pleasure-trip in the Opelousas railroad cars, leaving Algiers on Sunday morning in the 8 o'clock a. m. train, and stopping at Johnson's Canal, a short distance from the sugar-house, the cars returning the same day. Any one desirious of obtaining further information upon the subject are referred to Messrs. Hall, Rodd, & Putnam, No. 4 Front Levee, New Orleans.

TURPENTINE PRODUCT OF THE SOUTH.

The following is the report of a committee appointed on the part of the turpentine producers of Alabama, in December last:

The committee to whom was referred the resolution of Colonel James, upon the subject of the cultivation of turpentine, &c., beg leave to make the following report: That the character of the soil best adapted to the production of the turpentine pine should be of light and porous nature, with a subsoil of clay, capable of retaining moisture. The pine should be of an extended low-growing top, with thick bark and sapwood—the trees not to stand so thickly upon the land as to be too much shaded by the overgrowing foliage. The number of boxes to be cut in a tree should be governed by the size of the same. As a general rule for cutting boxes, the committee recommend the following standard: the box to be thirteen inches in horizontal width, three and a half inches in horizontal depth, and seven inches in perpendicular depth. This will produce a box of the capacity of one and a quarter quarts, which, after a few years use, will be reduced to a box capable of containing a full quart only; which, from experience, your committee believe to be the most profitable size. Taking a tree capable of sustaining two boxes, they would recommend that the boxes be cut side by side, with a life-streak of bark of four inches intervening between them, in preference to cutting them opposite to each other, and that one-third or more of the bark should be left for the support of the tree, the boxes to be cut just at the bulge of the tree near the root of the same. The corners of the boxes should be cut out with the inclination of the face of the box, and to extend in a line perpendicular to the outer corners of the same, so as to show a line horizontal and the top of the box—the object of chipping being to expose a new surface of the pores for the exudation of the turpentine. The cut of the hacker should extend a half inch in depth into the tree, and one-fourth in altitude, and the chipping should be renewed once a week. The best instrument for the purpose is the hacker with a small bowl, to be kept exceedingly sharp, and the best instrument for sharpening the same is the stone known as the Siam hone or slip.

Your committee have nothing new to suggest or recommend as to the best mode of dipping, or the best instrument for that purpose; but in reference to the scrape or hard turpentine, they would advise the use of cloths instead of the old-fashioned box for receiving the same. The committee

would recommend the light iron axle two-horse wagon as the most expeditious and economical for hauling turpentine. The frame for the barrels should be made of 4 by 6 inch scantling, with segments of circles cut therein, one-half across the upper face of the same to receive the ends of the barrels, with two interior parallel rails, so that when either end of a barrel is removed from the concave which it occupies, it can be rolled from the wagon on a smooth surface. The committee would recommend that when the distiller can avail himself of a hill side, the simplest plan to elevate turpentine to the still is to extend a railway from the top of the hill to the platform. If upon a level plain, the use of the machine employed by flour mills to elevate their sacks and barrels to the upper stories of the mill, the said machine being a platform, with four upright posts, with a roller in the head of each, two ropes from the roof of the still-house, passing beneath said rollers, (one on each side,) thence through sheave blocks and around a cylinder turned by a crank from below. In regard to preparing the turpentine for distillation, we refer you to the explanation made by a member of this committee, as to the style best adapted to making the best article of rosin. The experience of your committee would lead them to decide in favor of a small size still, or with a flat and greatly extended surface. The committee would recommend that in distilling the still should be charged to only two-thirds its capacity, to allow for the expansion of the material during ebullition. The amount of water to be supplied should be equivalent to the amount condensed in the still-worm, and kept in the same ratio so long as the spirit comes over, and should the still have a tendency to boil over, an increased amount of fuel is to be supplied until the excessive ebullition ceases; the heat is then to be diminished, and the still run regularly as before. Your committee deem it unnecessary to enlarge on this point, as they presume that in all cases of new beginners a practical distiller will be employed. Your committee recommend that in addition to the usual mode of gluing the spirit casks, that the casks, being partialy drained after each gluing, be placed upon a horizontal plane, each head alternately placed upon said plane, and would further recommend the use of the Scotch glue, in all cases in which the distiller is unable to manufacture his own glue from good sound hides. The committee would recommend that in making barrels and casks, the staves and heading should be fully dressed, ready for the truss-hoop, and be permitted to remain some time previous to being made into barrels, for the purpose of allowing the staves, &c., to

shrink. By adopting this course the barrels are less liable to leakage. The staves for turpentine barrels should be thirty-two inches in length, the head to be worked in a twenty-inch truss-hoop. The spirit cask should contain forty-five gallons, and, in case oak heading cannot be obtained, would recommend the substitution of poplar instead.

WOOL.

The high prices which have governed wool, says the *United States Economist*, in the last two years, have undoubtedly stimulated production to an extent which must tell on prices in face of the depression which the war fears of Europe cast over the production of cloth as well here as in England and Germany. Australia has for a long time been the chief source of supply to England, and when the gold fever broke out in that region the liveliest fears were entertained in England in relation to supply, and prices in consequence of those fears ran high. The fact of high prices seems to have obviated the evil dreaded, since the supply has been vastly larger than ever before. The following return of the British Board of Trade gives the supply:

Import of wool into England.

	1849.	1850.	1851.	1852.	1853.
	lbs.	*lbs.*	*lbs.*	*lbs.*	*lbs.*
Spain	127,579	440,751	383,150	223,418	151,117
Germany:—viz., Mecklenburg, Hanover, Oldenburg and Hanse Towns.	12,750,011	9,166,731	8,219,236	12,765,258	11,881,800
Other countries of Europe	11,182,854	8,708,252	14,263,156	18,782,040	28,861,166
British Possessions in South Africa	5,377,595	5,709,529	5,816,591	6,338,796	7,221,448
British Possessions in East Indies	4,182,853	3,473,153	4,549,520	7,880,784	12,400,869
British settlements in Australia	35,849,171	39,018,221	41,810,117	48,197,301	47,075,812
South America	6,014,595	5,296,648	4,850,048	6,552,689	9,740,082
Other countries	1,004,679	2,518,394	3,420,157	3,661,682	4,858,172
Total	76,768,847	74,326,773	83,311,975	98,761,458	119,396,445

The increase here is 26,000,000 lbs. for the year, of which 6,000,000 is from Australia, from which country the increase has been annually greater instead of falling off. With such large supplies of wool up to the close of the year which ended amidst the depression of war fears, prices in England have fallen fifteen to twenty per cent., inclusively, English as well as imported. On the continent, not a dissimilar state of things is manifest. This decline in the raw material, together with the diminished consumption of cloths, points to lower prices, justly checking any disposition on the part of American manufacturers to buy more than supplies daily wants. Those of them who use imported wools like the heavy 10 lb. fleeces of South America, are opposed to the competition of foreign goods. Thus manufacturers of worsted yarns buy wools of

South America. They pay for 100 lbs. thirty per cent. duty; out of that they make 85 lbs. of worsted yarn, on which is paid twenty-five per cent. duty. Thus there is a difference of five per cent. bounty on importing the yarns which are produced abroad at lower rates. These manufacturers buy very cautiously, and the consumers of American wool do likewise. The absurdity of the duty is very manifest. In the face of this disposition, accompanied by a tight money market, a clip will soon come forward of considerable magnitude, being produced under favorable circumstances, stimulated by high prices. The declining state of woolens, and the backwardness of the spring business, will in all probability re-act upon the wool-growers.

OUR AGRICULTURAL DEPARTMENT.

Henceforward there will be a regular department of the Review appropriated exclusively to the discussion of matters interesting and instructive to the agricultural community. It will occupy at least thirty-two pages in each number, and will embrace a monthly digest of material obtained from every quarter, including the most standard treatises and approved agricultural literature. Notices of all associations, societies, fairs, and for agricultural purposes will be inserted, with extracts from their reports, resolutions, &c. Improvements in farming machinery and farm management, including the management of slaves, will also be objects of prominent attention.

Our purpose is to make this department of the Review in its practical details as well as in its more elaborate disquisitions, equal in every respect to the best agricultural journals of the country. The plan is not yet sufficiently well organized for the present number to be considered a fair criterion, though in the course of two or three months all that is promised will be more than carried out.

Farmers and planters are cordially invited to contribute to our pages, and in this way address themselves to the many thousand persons throughout the planting States who subscribe to the Review. We solicit contributions, however brief or elaborate, upon the most practical subjects, *and promise that they shall all receive prompt attention.* What is wanted are papers from practical men upon crops, soils, modes of culture, experiments in progress, field management, horticulture, &c. The field is a wide one, and is cheerfully opened to all. Send on your correspondence, friends.

HOME AND FOREIGN COMMERCE.

SAFETY OF NAVIGATION ON THE HIGH SEAS.

Lieutenant Maury, of the National Observatory, has prepared an interesting circular upon this subject. He adopts the idea of Mr. Forbes, of Boston, that collisions may be avoided at sea by means of a double track for steamers, which is thus explained:

"By having one route for them to go and another for them to come, we should not avoid *entirely*, but we would greatly *lessen* the liability of collision. If steamers would agree to follow two such routes, I think I could lay them off so as to have them quite separate except at the two ends, without materially lengthening the passage either way.

"For example, the route *from* Europe shall be by the great circle, as it is now, it being understood that vessels as they come by it shall keep north of a certain line to be drawn from the offings on that side to the offing on this, and which line shall pass 50 or 60 miles south of Cape Race, and thence shaving Sable Island on the north, shall end in the offings of Sandy Hook.

"This would leave quite margin enough to enable the vessels to allow for their maximum errors of reckoning, without feeling pinched for sea-room. This route would lead the westward bound steamer, particularly if she came out to the north of Ireland, to a part of the ocean that is less travelled by vessels bound in the opposite direction, than any other part of the Atlantic between New York and Europe. It would be seldom, indeed, that the steamers coming this route would meet a trader. They would fall in, however, especially along the western halt of this route, with vessels bound to and from the ports of Newfoundland, and others of British America. But along that part of this homeward, or American route let us call it, which lies to the eastward of Newfoundland, the liabilities to collision will be small indeed.

"Now for the route to go, or the European route. Let us draw another line from the offings of Sandy Hook to the offings of Liverpool, or say of Cape Clear. This line, in the middle of the Atlantic, will be about 100 miles south of the southern limit of the American route, and is, we shall suppose, to be the northern verge of the European route; that is, all the steamers bound to Europe will keep south of this line.

"Steamers taking this route will have the current of the Gulf Stream in their favor, which will quite make up for its greater distance. Whereas, when on the American route, they will avoid the set of the Gulf Stream almost entirely. Another recommendation in favor of the European route is, that the fogs to be encountered along it are not quite so thick and prevalent as they are along the American route."

Upon the question of the greatest safety of a steamer in a fog, he remarks:

"Now as to the safest speed in a thick fog, that depends, to some extent, upon the state of the wind and sea. When the sea is smooth and the wind light, the slower the safer; but when there is a sea on, and a breeze blowing, then the faster the steamer goes the better: for the danger is not in proportion to the number of knots in an hour that a steamer sails through a fog, but to the number of hours she is in it."

Lieutenant Maury is certainly entitled to the rank of one of the greatest public benefactors of the age.

COMMERCE OF GREAT BRITAIN.

The following will show the value of English exports to the countries named:

	Russia.	United States.	Holland and Belgium.	Hanse Towns.	Total foreign.	Total to foreign & British possessions.
1831...	£1,195,565	9,053,583	2,082,536	3,642,952	26,909,432	37,164,372
1842.....	1,885,953	13,535,381	4,672,852	3,202,700	34,119,587	47,381,023
1853.....	1,106,767	23,658,427	5,854,772	7,565,493	65,551,579	98,933,781

The London Economist upon the above figures remarks: With regard to the other British possessions abroad, the chief increase has taken place in the trade to Australia, which since 1842 has risen from £998,952 to £14,513,700 in 1853; to India, which has risen from £5,169,888 in 1842, to £8,185,695 in 1853; and that to Southern Africa, which has risen from £369,076 in 1842 to £1,212,630 in 1853. So that, while in the eleven years prior to 1842 our exports to foreign countries, other than our own colonial possessions, increased by £7,210,155, in the second period of eleven years, under a more enlightened policy, they have increased by no less a sum than £31,431,992. What a triumphant reply to those who told us that we could not fight hostile tariffs by free imports! The chief portion of this increase has taken place, as was to be expected, to those countries most directly affected by the alterations in our tariff of import duties, notwithstanding they have done little or nothing to reciprocate our policy. France, the United States, Holland, and the Hanse Towns, (for German trade,) Brazil, Cuba, and Turkey are the countries to which by far the largest increase has taken place. It is an interesting fact at the present moment that since 1831 our exports to Turkey have increased from £888,654 to £2,029,305 in 1853, while those to Russia, North and South, have increased from £1,191,565 only to £1,228,404.

TONNAGE OF THE UNITED STATES.

Since 1845 the amount of tonnage built in the United States has nearly doubled. It reached, in 1853, 425,517 tons, and the State of Maine monopolizes more than a fourth of this business.

In the year 1842, ending June 10th—

	Tons.
Maine built	31,205 04
Massachusetts	25,961 50
New York	29,342 60
In the year 1853, ending June 30th—	
Maine built	118,916 67
Massachusetts	83,015 15
New York	83,224 05

The increase in Maine is still larger this year. It was estimated, in August, by a very careful man, who has visited nearly all the ship-yards in the State, that there was then on the stocks 200,000 tons, which, at $60 per ton, gives $12,000,000 as the aggregate value of this important branch of Maine industry. One-quarter of this whole amount is built on the Kennebeck river alone. It is estimated that Maine this year will build one-third of all the tonnage built in the United States.

REGISTERED TONNAGE.

		Total tonnage.
Registered vessels employed in foreign trade on the 30th of June, 1854.		2,338,819
ENROLLED AND SMALLER VESSELS.		
Enrolled vessels employed in the coasting trade 30th of June, 1854	2,273,900	
Smaller vessels, under twenty tons	45,214	
		2,622,114
FISHING VESSELS.		
Enrolled vessels employed in the cod-fishery	102,194	
Enrolled vessels employed in the mackerel fishery	34,041	
Smaller vessels, under twenty tons, in the cod-fishery	9,734	
		146,965
Registered tonnage in the whale fisheries		181,901
Registered tonnage in steam navigation		96,036
Enrolled tonnage in steam navigation		581,577
Total tonnage of the United States, 30th June, 1854		5,661,416

AMERICAN COLONY IN CENTRAL AMERICA.

Since the ancient Greeks, no people have been more disposed to colonize than the American. It is by such means that the area of civilization, and with it of commerce and enterprise, is extended. We have a new example at the present moment. The Mosquito territory, which has so long been an eye-sore in diplomacy, is now about to open its doors and receive into its midst a people who will, in a few years, change the whole face of that prolific country, and establish order and quiet throughout Central America. We shall keep well advised of the scheme, and wish it, most heartily, success.

"The purpose is to establish a government based upon the great principles of republicanism; to confirm every present title existing in the country; to give value to the country by cultivation and by introducing Americans, with their varied industrial pursuits; to teach the inhabitants the value of a peaceful, stable government, established on the popular will, and to give an example of what an intelligent, industrious, enterprising people can accomplish.

"We understand Col. Kinney goes out as general agent and representative of a number of American citizens, who claim to be the legal owners of about twenty-five millions of acres in the Mosquito country. The title, it is said, is derived from a deed of conveyance made several years since by the King of Mosquito, sanctioned by a convention of his chiefs, to three Englishmen, for a valuable

consideration. This deed contemplates the introduction of immigrants, and expressly *sanctions the colonization of the country by the grantees or their assignees.* The title thus derived has been conveyed by the original grantees to a company of some thirty Americans, embracing gentlemen of the highest character for intelligence, integrity, and patriotism.

"From the well-known character of Col. Kinney as a gentleman of honor, intelligence, enterprise, and patriotism, we are satisfied the company could not have intrusted their interests to one more likely to carry them successfully through. He will not be the leader of marauders or reckless adventurers, but he will carry out a colony of active, intelligent, energetic, and industrious men, who go to labor and to diffuse the arts of peace, and to lay the foundation of regular government."

USURY LAWS.

The Chamber of Commerce of Charleston has memorialized the legislature of the State against all usury laws. They are unquestionably as far behind the age as would be the Blue Laws of yore.

Whereas, in the opinion of this Chamber, the laws regulating the rate of interest greatly aggravate the present financial difficulties—in affixing an unchangeable value upon an article which fluctuates in worth, like any other commodity, in obedience to the law of demand and supply; in injuriously restricting the liberty of the citizen to pay whatever price he may deem proper for any article he needs, and which, from its importance to him, he may deem reasonable; in confining the professional dealing in money to a small number of persons, who, unscrupulous in violating law, may be equally unscrupulous in taking advantage of the necessitous; in embarrassing the conscientious, law-abiding capitalist, and oppressing the needy borrower; in limiting the amount of capital devoted to the uses of trade, and therefore increasing the rates at which it can be procured, already enhanced by the risk of penalty and forfeiture; and in their tendency to demoralize society, by accustoming it to the habitual infringement of law; and are, therefore, inefficient for good, and potent for evil, and essentially at war with the principles of free trade, to which this State has been devoted.

SOUTHERN STEAMERS TO EUROPE.

The idea of a line of steamers between Charleston and Europe is again taking hold of public attention. Several years ago an attempt was made to carry it out, but from some bungling management, a failure resulted, without so much as a fair experiment. Lately a writer in the Liverpool Times appeals to the merchants of that great commercial mart to take up this scheme as one likely to lead to a large augmentation of its business. He believes they will be met with open arms by the merchants of Charleston, and that the whole south will join in the enterprise. We have no doubt that this is the case, and that nothing has ever been wanted but the requisite skill and capital to secure success:

"Some objections exist to the bar situated at the entrance of the Charleston harbor. We think this is of no importance in the matter, and can have no possible bearing on the matter. At the commencement of the enterprise we would not seek to build vessels of the dimensions of those running on the line to New

York, as they would not be required. Steamers of the size and burden of those running between New York and Charleston would be large enough for present purposes; and, as our trade increased, the means of removing the bar would be soon made use of by the Charlestonians. They would soon perceive the immense advantages derived to them from the new channel of communication, and thus be influenced to remove all obstructions to its enlargement. There are now running regularly to and from Charleston thirteen steamers, connecting the city with different points on the continent, all of which are making good dividends for their owners. If this be the case, and there can be no doubt of it being so, else they would not be continued in the trade, is it not reasonable to suppose that a line between this city and Charleston would pay, more especially when we consider that those steamers have to contend with the rail roads of the interior and sailing vessels? We have understood that the merchants of Philadelphia had built and put on the trade the steamer Quaker City, without any object of making her pay by freight, but with the view only of reaching the immense trade of Tennessee and North Carolina. They also contemplate the building of another steamer. The Quaker City is eighteen hundred tons burden.

If we consider this line in connexion with the two northern lines, we cannot but see that we would possess great advantages over them. The southern route is more safe, and less liable to those dangers always connected with a northern passage. Collisions with either vessels or icebergs would be much less frequent; besides which there are many intermediate points which could be touched at, or made deposites of coal, or any other things. But the greatest advantage to be derived to our city in this trade is that the line would always be sure of having a cargo from each point—from Charleston, of either cotton, rice, flour, grain, and many other products of the south; whilst at Liverpool, there would be at all times large quantities of coal, iron machinery, and other things, awaiting a chance of ship, all of which are not productions of the southern States. As regards passengers we feel satisfied that more would take this route than the northern, both because the southern States would send more to Europe than the north, and because the southern route is much the safest of the two."

THE SANDWICH ISLANDS.

Whether these islands shall ever be American or not, nature has clearly marked them out as prominent points in the pathway of modern commerce, and for the developement of modern enterprise. We believe that they will be annexed.

To those who possess the proper energy, and the power of adapting themselves to new circumstances, a field of true promise is here opened. The Sandwich Islands that are inhabited are eight in number, with an aggregate area of 6,000 square miles, being about one-fifth that of the island of Cuba. Of these 6,000 square miles, only a small portion is arable land. Honolulu, the leading port, possesses the only safe harbor at present; but there are harbors in the other islands that could be made available for shipping, with some artificial

means. The areas, &c., of these eight islands may be seen at a glance in the following table:

Name.	Length. *Miles.*	Breadth. *Miles.*	Height. *Feet.*	Area. *Sq. Miles.*
Hawaii	88	90	14,000	4,000
Mani	48	20	10,000	600
Oahu	46	23	4,000	520
Kanai	33	28	5,000	520
Molokai	40	9	2,800	170
Lanai	20	12	1,600	100
Niihau	7	7	800	80
Kahulawe	11	8	200	60

In order to show the general trade of the islands, we select the following items:

The value of foreign imports for the year 1853 was $1,281,951, value of foreign goods re-exported, $191,397; value of domestic exports, $281,599; revenue, $326,620; disbursements, $265,795; total dutiable imports, $1,160,355; duty free, $79,402; entered in bond, $16,284; withdrawn from bond for consumption, $25,908; giving the total value as above. Of the dutiable goods $587,770 29 were from the Atlantic States, and $367,149 64 from the Pacific side, or California and Oregon. From China the imports were $42,056; from Chili, $38,090; Great Britain, $2,471 74; Bremen, $12,225; Phillippine Islands, or Spanish possessions, $12,038, and from France, $30 only. The domestic exports for 1853 consisted chiefly of sugar, 634,955 pounds; sirup, 18,244 gallons; molasses, 58,448 gallons; coffee, 50,506 pounds; salt, 3,509 barrels; Irish potatoes, 15,464 barrels; sweet potatoes, 8,979 barrels; swine, 3,724; sheep, 733; goat skins, 5,000; hides, 1,741; tallow, 16,452 pounds; fresh beef, 38,000 pounds; salt beef, 13,260 pounds; wool, 10,824 pounds; cocoa nuts, 2,000; melons, 2,500; together with numerous other articles.

The total of custom-house receipts during the year were $155,640. Of this amount $146,964 were received at Honolulu, and $8,128 at Lahaina; the remaining $537 was received at the ports on the islands of Hawaii and Kanai. Of these receipts, $58,114 were for duties on goods, $70,209 68 on spirits, and $8,261 for harbor dues.

The rapid growth of the foreign trade of the islands is shown in the annexed summary:

	Imports—Values.	Re-exported.	Duties.
1843	$223,000	$60,000	$6,701
1845	546,900	67,000	21,500
1847	710,000	55,000	101,500
1849	729,700	107,000	222,100
1850	1,035,000	46,000	202,600
1851	1,751,600	82,000	189,000
1852	715,200	63,000	135,400
1853	1,281,900	191,000	326,000

The soil and climate of the Sandwich Islands are well adapted to the cultivation of wheat, cotton, tobacco, coffee, indigo, silk, arrow-root, and potatoes. Sugar is becoming one of the leading products of the islands. The average yield per acre is two thousand pounds, and the ordinary value five cents per pound. In seven of the islands there were 1,650 acres under sugar cultivation in 1852, and these had increased to 2,750 in 1853. It has been calculated that 25,000 acres may easily be brought under sugar cultivation in each of the four principal islands, and that every acre may be made to yield 3,000 pounds annually. Such a crop, at five cents per pound would yield $15,000,000. In Louisiana, in 1850–'51, the crop exceeded 200,000 hogsheads, was worth $10,000,000. Cane can be raised in the Sandwich Islands at twenty dollars per acre, including every item of expense—a much less cost than in Cuba or Louisiana. Annexation would make the cultivation of sugar much more profitable in the Sandwich Islands than it is even now, since thereby the Sandwich Island sugar would share with that of Louisiana the advantage of being protected by the thirty per cent. duty. Coffee can be raised for three-and-a-half to four cents per pound. Silk from $1 50 to $2 per pound. Wheat is cultivated to some extent, the crop usually averaging twenty-five bushels to the acre. The Irish potato is cultivated to a large extent, and Indian corn attains great perfection.

The climate is represented as being remarkably uniform and salubrious. The average temperature of the eastern side is seventy-two degrees; in winter the thermometer rarely goes below sixty degrees.

We think we have furnished sufficient data to convince our young friends of the undeveloped resources of this group of islands; and the merest glance at the map will show the great commercial importance of their geographical position. It should be borne in mind that steam navigation is about to be commenced between San Francisco and Honolulu, and also between the various islands themselves. We regard it as certain that the Sandwich Islands will, within the next five years, make a *relative* progress in material development that few if any of the present new American States and Territories can vie with, and that the American people are destined thus to reap the reward of the missionary labors they have there so nobly sustained.

EMIGRATION TO THE UNITED STATES.

A statement appears in the New York Courier and Enquirer showing the return of about 12,000 emigrants to Europe during the last six months of 1854. The fact is thought to be significant. Is the supply of labor in this country more nearly equal to the capital to employ it, or have the foreign wars created openings for labor at home? Can the present opposition to foreigners have had its effect? Some who have accumulated small fortunes are returning; a large number are sent back by the commissioners of emigration by reason of age or pauperism. Though the total emigration has increased it has been chiefly by Germans. The Irish and other foreigners have fallen off.

DANISH SOUND TOLLS.

The Danish Sound tolls have long been a subject of correspondence between our government, as it has of other governments, and that of Denmark. For these exactions Denmark can plead nothing but the right of prescription. In 1853, it is said that 21,587 vessels passed through the Sound and the Great and Little Belt. According to the United States Economist—

"The tax levied in 1756 brought a sum of less than 200,000 Prussian dollars into the Danish treasury. In 1770 this amount was more than doubled. In 1820 it had reached 1,500,000 dollars. In 1853 the Sound tolls amounted to 2,530,000 dollars. From 1830 to 1853, the Danish treasury received over 50,000,000 dollars of revenue, all of which was derived from a middle age system of robbery, to which the only title has been a time immemorial habit of levying black mail on the ocean, inherited from the northern king pirates of the ninth and tenth centuries.

"Our minister at Copenhagen should be instructed to give immediately the year's notice, and when the year has expired, the court of Denmark should be made aware that neither the fortress of Kronenburg on the Sound, nor those of Norburg and Frederica on the Great and Little Belt, shall thenceforth prevent our ships from sailing unmolested into the Baltic, as they do into the Mediterranean and the North Sea. We shall be sustained by England, France and Prussia, and a field will be opened to our commerce more important than Japan or the islands of the Pacific, and in acquiring which we shall have the applause of the civilized world."

The President of the United States in his annual message has adverted to the subject in the strongest terms, and, without doubt, the required notice will be given.

POPULATION OF GREAT COMMERCIAL CITIES.

Population of some of the largest commercial cities in the world, (over 50,000 each.)

London‖	2,363,141	Warsaw‖	162,597	Stockholm‖	90,823
Pekin†	1,750,000	Cincinnati ¶	160,000	Rotterdam‖	88,812
Paris‡	1,053,262	Bahia (Brazil)	160,000	Antwerp‖	88,800
N. York & sub's¶	850,000	Leeds‖ (England)	152,000	New Castle	87,784
Canton†	800,000	Milan (N. Italy)	151,438	Cork ‖	86,485
Constantinople‖	786,900	Boston¶	150,000	Hull	84,690
Philadelphia ¶	550,000	Mexico	150,000	Liege‖ (Belgium)	77,587
Nankin	500,000	Tunis †(N.Africa)	150,000	Lille	75,795
St. Petersburg †	478,437	Hamburg‖ (Ger.)	148,754	Strasbourg(France)	75,565
Vienna‖	477,846	New Orleans¶	145,449	Bologna‖(N. Italy)	75,100
Berlin‖	441,931	Bristol‡	137,328	Leghorn‖ (Italy)	74,530
Naples‖	416,475	Brussels ‖	136,208	Odessa (Russia)	73,023
Calcutta	400,000	Sheffield	135,310	Portsmouth (Eng)	72,096
Liverpool ‖	384,265	Copenhagen‖	133,140	Aberdeen	71,973
Glasgow*	367,800	Bordeaux ‖	130,927	Konigsberg‖ (Prus.)	71,198
Moscow‖	350,000	Venice‖	126,768	Trieste‖ (Austria)	70,846
Manchester ‖	296,000	Pesth‖ (Hungary)	125,000	Lima (Peru)	70,000
Madrid‖	260,000	Prague‖ (Bohemia)	124,181	Bagdad (Asia)	70,000
Dublin ‖	254,850	Saint Louis¶	120,000	Batavia (Asia)	70,000
Lyons ‖	249,325	Barcelona‖ (Sp'n)	120,000	Teheran (Asia)	70,000
Lisbon‖	241,500	Genoa‖ (N. Italy)	120,000	The Hague‖	66,000
Cairo (Egypt)	240,000	Ghent‖(Belgium)	112,410	Oporto ‖	62,000
Bombay	235,000	Pittsburg & sub's a	110,241	Chicago, Illinois¶	60,000
Birmingham	232,841	Munich ‖ (Ger'y)	106,776	Buffalo, N. Y.¶	60,000
Amsterdam‖	222,800	Breslau‖ (Prussia)	104,000	Malaga‖ (Spain)	60,000
Havana	200,000	Florence‖	102,154	Dantzic (Prussia)	58,010
Lucknow (Asia)	200,000	Rouen‖ (France)	100,265	Frankfort‖(N.Ger.)	57,552
Delhi (Asia)	200,000	Belfast ‖	99,660	Washing'n,D.C.¶	53,592
Marseilles‖	195,257	Brooklyn §	96,838	Bremen‖	53,152
Baltimore¶	195,000	Nantes † (France)	96,362	Leipsic (Saxony)	54,519
Palermo (Sicily)‖	180,000	Toulouse ‡	93,379	Louisville, Ky.¶	51,726
Rome‖	172,382	Cologne‖	92,244	Albany, N, Y.¶	50,763
Rio de Janeiro	170,000	Dresden‖ (Germ'y)	91,277	Charleston, S.C.¶	50,000

* M'Culloch's Universal Gazeteer, 1852. † Guibert. Dictionnaire Geographique et Statistique, Paris, 1850. ‡ Official returns, 31st December. ‖ Weber. Volk's Kalender, 1853, Leipsic. ¶ Estimated population in 1854. a Local Census, 1853. § Included in the suburbs of New York.

COMMERCIAL AND OTHER CHARACTERISTICS OF CENTRAL AMERICA.

From a report made to Congress the following is extracted, going to show the abundant resources of these regions for agriculture and commerce:

The natural resources of Nicaragua are immense, but they have been very imperfectly developed. The portion of lands brought under cultivation is very small, but ample for the support of its population. There is no difficulty in increasing the amount to an indefinite extent, for the forests are easily removed, and genial nature needs no forcing to return rich harvests. There are many cattle estates, particularly in Choutales, Matagalpa, and Segovia, which cover wide tracts

of country; some of these have not less than ten or fifteen thousand head of cattle each. The cattle are generally fine, quite equal to those in the United States.

Among the staples of the State, and which are produced in great perfection, I may mention sugar, cotton, coffee, cacao, indigo, tobacco, rice, and maize or Indian corn.

Sugar.—The description of sugar-cane used in Nicaragua is a native of the country, and very different from the Asiatic cane cultivated in the West Indies and the United States; it is said to be equally productive with the foreign species; the canes are slenderer and softer, and contain more and stronger juice, in proportion to their size, than the Asiatic variety. Two crops are taken annually, and the cane does not require replanting but once in twelve or fourteen years. The best kind of sugar produced from the sugar estates is nearly as white as the refined sugar of commerce, the crystals being large and hard. A large part of the supply for ordinary consumption is what is called "*chancaca*," and is the juice of the cane merely, boiled till it crystalizes, without being cleaned of the molasses. A quantity of this is exported to Peru, and elsewhere in South America. It is stated that the "chancaca" may be produced ready for sale at $1 25 per quintal, (101½ lbs. English.) The most profitable part of the sugar establishment is the manufacture of "*agua ardiente*," a species of rum. It is impossible to say, in the absence of data, what is the amount of manufacture of sugar in Nicaragua; it is perhaps enough to know that it may be produced indefinitely. The export has been estimated at 200,000 lbs.

Cotton.—Cotton of a superior quality to that of Brazil may be produced in any quantity in Nicaragua. "As many as 50,000 bales, of 300 pounds each," says Dunlap, "of clean and pressed cotton have been exported from this State in a single year; the cultivation is, however, at present (1846) at a very low ebb." Considerable quantities are nevertheless raised, which are manufactured by the natives, but chiefly by the Indians, into hammocks, sail-cloth, and ordinary clothing. The domestic cloth is coarse, but compact, neat, and durable.

Coffee.—Coffee of a superior quality, and probably equal to any in the world, may also be produced indefinitely in this republic; but for some reason it is not very extensively cultivated. The plantations which I have seen are very flourishing, and the proprietors find them quite as profitable as any other. The limited cultivation is perhaps due to the circumstance that chocolate is the common beverage of the people, and coffee, never having become an article of trade or export, has

consequently been neglected. There is no reason why as good coffee should not be produced here as in Costa Rica; and the Costa Rica coffee, when offered in good condition in England, commands a higher price than any other. As, however, it is usually shipped by way of Cape Horn, it often suffers from the protracted voyage. It has, nevertheless, been the almost exclusive source of wealth in Costa Rica. The crop of 1847 amounted to 8,000,000 pounds, which, at $12 50 per cwt., (the average price in the English market,) gives $1,000,000 as the returns—a considerable sum for a State of less than 100,000 inhabitants, and where the culture has been introduced but fourteen years. The cost of production per quintal (101½ pounds) at the present rate of wages (25 cents per day) is about $2 50. If the attention of the people of Nicaragua was seriously directed to the production of coffee, it would prove a source of great profit.

Cacao.—Cacao, only equalled by that of Soconosco, on the coast of Guatemala, (and which was once monopolized for the use of the royal establishment of Spain,) is cultivated in considerable quantities. It is, however, an article of general consumption among the inhabitants, and, consequently, commands so high a price that it would not bear exportation, even though it could be obtained in requisite quantities. About all that finds its way abroad goes in the form of presents from one friend to the other. There is no reason why this should not become an article of large trade and a source of great wealth. There is one cause why its production is not greater, and that is the length of time and great outlay required in getting a cacao plantation in paying operation. Few have now the capital to invest, and these few are in too feverish a state, in consequence of the distracted condition of public affairs, to venture upon any investment. Under a stable condition of things, and by the opening of a short and easy channel to market, the cultivation of cacao will rise to be of the first importance. The trees give two principal crops in the year. It is sold from $15 to $20 the quintal, while the Guayaquil is worth but $5 or $6.

Indigo.—Indigo was formerly cultivated to a considerable extent, but has of late years much fallen off; and there are a number of fine indigo estates in various parts of the republic which have been quite given up, with all their appurtenances, by their respective proprietors. The plant cultivated for the manufacture of indigo is the *indigo fera*, a triennial plant, supposed to be a native of America. There is also an indigenous triennial plant abounding in many parts of Central

America, which produces indigo of a very excellent quality, but gives less than half the weight which is produced by the cultivated species. The indigo of Nicaragua is of a very superior quality, and its export once came up to 4,000 bales, of 150 pounds each. It is impossible to say what the export is at present—probably not more than 1,000 or 2,000 bales. Under the government of Spain, the State of San Salvador produced from 8,000 to 10,000 bales annually. A piece of ground equal to two acres generally produces about 100 or 120 pounds, at a cost of not far from thirty to forty dollars, including clearing of the field, and all other expenses.

Tobacco.—A large amount of tobacco is used in Nicaragua, all of which is produced in the country. A considerable quantity was this year shipped to California. It may be cultivated to any desirable extent, and of a very superior quality. That of San Salvador is said to be equal to the best Havana for cigars.

Maize flourishes luxuriantly, and three crops may be raised on the same ground annually. It is essentially the "*staff of life*" in all Central America, being the material of which the eternal *tortilla* is composed. The green stalks, "sacate," constitute about the only fodder for horses and cattle in the country, and is supplied daily in all the principal towns. The abundance of this grain may be inferred from the fact that a *fanega of Leon* (equivalent to about five bushels English) of shelled corn commands in the capital but 75 cents.

Wheat and all other cereal grains, as well as the fruits of temperate climates, flourish in the elevated districts of Segovia, in the northern part of the republic, bordering upon Honduras; where, it is said, except in the absence of snow, little difference is to be observed, in respect to climate, from the central parts of the United States.

Rice is abundant in Nicaragua, is extensively used, and like maize, may be easily cultivated to any extent desirable. It is sold at from one dollar and fifty cents to two dollars per cwt.

In short, nearly all the edibles and fruits of the tropics are produced naturally, or may be cultivated in great perfection. Plantains, bananas, beans, chile, tomatoes, bread fruit, arrow-root, okro, citrons, oranges, limes, lemons, pine apples (the delicious white Guayaquil, as well as the yellow variety,) mamays, anonas, guavas, cocoa-nuts, and a hundred other varieties of plants and fruits. Among the vegetable productions of commerce may be mentioned sarsaparilla, anots, aloes, ipecacuanha, ginger, vanilla, Peruvian bark, (quinine,) cowhage, copal, gum arabic, capevi, caoutchouc, dragon's blood, and

vanglo or oil plant. Among valuable trees, mahogany, logwood, Brazil wood, lignumvitæ, fustic, yellow sarders, pine, (on the heights,) dragon's blood tree, silk-cotton tree, oak, copal tree, cedar, buttonwood, ironwood, rosewood, Nicaragua wood, calebask, etc., etc. "Of these," says Dunlap, "Brazil wood, cedar, and mahogany are found in the forests in what may be termed inexhaustible quantities." The cedar is a large tree, like the red cedar of the north in nothing except color and durability, and in solidity and other respects closely resembling the black walnut. Five or six cargoes of Brazil wood are exported from Realejo yearly, and something more from San Juan. A quantity of cedar plank is also exported to South America.

The raising of cattle and the production of cheese is a most important item in the actual resources of Nicaragua. The cheese is for common consumption, and great quantities are used. Large droves of cattle are annually sent to the other States, where they command very fair prices. About thirty-five or forty thousand hides are also exported annually.

Mineral Resources.—The mineral resources of Nicaragua are also immense; gold, silver, copper, lead, and iron may be found in considerable quantities in various parts, but more particularly in Segovia, which district is probably not exceeded in its mineral wealth by any equal portion of the continent. The working of the mines has, of course, vastly fallen off from the time of the Spaniards; still their produce is considerable, but it is impossible to obtain any satisfactory statistics concerning it. A portion of the gold and silver finds its way through Isabel to the Belize; other portions pass out through the ports of Truxillo and Omoa, in Honduras; and another but smaller part reaches the ports of Nicaragua.

There is now no mint in Central America, excepting a small one in Costa Rica, which coins from $50,000 to $100,000 annually, principally in dollar pieces of gold. These are short of weight, and are not generally current. Their true value is ninety-three cents. Humboldt, in his statement of the produce of the respective mining districts of America, has put against that of Guatemala "nothing;" but it is certain, from the accounts of Gage and others, as also of the bucaneers, who made a number of profitable expeditions to the mining districts, that the precious metals were early produced in considerable abundance. From a report by the master of the old mint, made in 1825, it appears that, for the fifteen years anterior to 1810, gold and silver had been coined to the amount of $2,193,832, and for the fifteen years posterior to that date to the amount of

$3,810,382. This officer remarks "that it must not be deduced from hence that this is all our mines have produced in this period, as great quantities of the metal have been manufactured and exported in their native state." He estimates the actual products of the mines at ten times the amount coined; which would give upwards of $50,000,000 for the thirty years preceding 1825. This estimate will probably bear some deduction.

Other minerals are abundant. Sulphur may be obtained in great quantities, crude and nearly pure, from the volcanoes; and nitre is easily procured, as also sulphate of iron.

Coal, as elsewere stated, is said to occur, in large beds and of good quality, in the State of San Salvador, near the boundaries of Honduras, and only twenty miles back from the coast of the gulf of Fonseca.

NEW CLASSIFICATION OF THE STATES OF THE UNION.

A new classification of the States has been proposed for purposes of easy reference and comparison. The method divides the country into three great sections: 1. The East, on the Atlantic. 2. The West, on the Pacific. 3. The Interior, embracing the valley of the Mississippi. Each of these divisions has its own south and its own north, designated as Northern Atlantic, Southern Interior, Northern Pacific, &c., combining the north of each, the true northern States result, in none of which the institution of slavery exists. Combining the south of each, in the same way, every State having slave institutions will be included, and all of the territories in which slavery exists, or may exist, and California, which is sufficiently southern.

Thus the North Eastern States will be the whole of the present Atlantic States, north of Delaware, and South Eastern, all that are south of it, inclusive, and including Florida.

The North Western will consist of Washington and Oregon Territories, and the South Western, of California, New Mexico, and Utah.

The Northern Interior, or Northern Middle States, will include Indiana, Illinois, Ohio, Iowa, Michigan, Wisconsin, Nebraska, and Minnesota; and the Southern Interior, all the remaining States and Territories of the Mississippi Valley, and the Gulf.

Upon such a classification the following table has been prepared:

States.	Area square miles.	Population in 1850.	Density.	Native born, including slaves.	Foreign born.	Land cultivated, acres.	Land unimproved, but occupied—acres.	Value of farms and implements.
Eastern.								
North	166,858	8,626,851	51.78	7,307,790	1,304,387	33,956,168	55,162,835	$1,509,179,055
South	272,018	4,679,090	17.20	4,571,858	105,710	30,009,823	93,401,610	601,247,128
Total East'rn	438,871	13,305,941	30.35	11,879,148	1,410,097	63,965,491	148,564,445	2,110,426,183
Middle.								
North	792,166	4,721,551	5.96	4,139,911	568,358	23,741,907	52,958,820	730,079,969
South	765,420	4,985,566	6.51	4,772,585	204,814	24,977,371	87,378,136	583,518,826
Total Middle.	1,557,586	9,707,117	6.23	8,912,496	773,172	48,719,278	140,331,956	1,308,598,795
Western.								
North	308,052	13,294	0.04	11,992	1,159	182,857	482,808	3,082,593
South	632,157	165,524	0.26	138,252	26,411	214,988	4,231,405	6,105,493
Total West'n	940,209	178,818	0.19	150,244	27,570	347,845	4,664,213	9,188,086
Total U. States.	2,936,166	23,191,876	7.90	*20,941,883	*2,210,839	113,032,614	293,560,614	3,428,163,064

*Add unknown (39,154) to native and foreign to make total population.

THE ISLANDS OF THE PACIFIC.

SOCIAL AND POLITICAL CONDITION—POPULATION—AGRICULTURAL RESOURCES—GEOGRAPHICAL FEATURES AND POSITION—COMMERCE—SCHOOLS, ETC., ETC.

The progress of civilization, at least since the earliest periods of authentic history, has ever been westward. The faces of mankind have ever been turned towards the setting sun; as if the east, already fully explored and densely populated, no longer contained unexplored regions. And this seems really to have been the case; since the east—by which we mean the whole of Asia and its adjacent islands—was undoubtedly thoroughly explored and densely populated thousands of years before the Christian era. Fabulous as the Chinese and Hindoo chronologies may seem, there is probably more truth in them than modern historians in general are willing to admit. Certain it is, that Asiatic civilization, which has been stationary ever since the earliest historical periods, had passed through all its phases—its infancy, adolescence, manhood, middle and old-aged—long before any period that can be fixed by any historian. Everything in the east had been fully explored, and every isle, even, populated densely, as the ruins of cities which they once contained fully establish.

The east being thus destitute of attractions for the eager and restless mind of man, the fabled regions of the west set in motion a tide of human beings which even now has not ceased its motions. For a time the Atlantic presented an insurmountable barrier, and the wave of human beings, struggling to advance westward, was tossed back over the plains of Europe. The great Genoese navigator at last came to its aid, and opened to it a New World.

Into this New World an incessant flood of restless, ambitious, adventurous spirits has been pouring for the last three hundred and sixty-two years; and, like the Old World, it is getting to be full. Every region of it is explored and more or less occupied. Every barrier to advancement westward—for "Westward, ho!" is still the cry—has been overcome; and as a last step—for this must certainly be the last—we now see the advancing column of human beings precipitating itself upon the isles of the Pacific, and eagerly stretching forth their arms towards Asia—the mother of the human race.

The cry is now, China and Japan! to which the intermediate steps are the isles of the Pacific. These let us now explore. China and the island empire of Japan being now the utmost stretch of Anglo-American progressiveness, let us take a look at some of the half-way stepping stones to them—the sunny isles of the Pacific.

Polynesia, or the ocean-world of islands, has, until of late years, been visited but little, except by the whale ships, on their way to their fishing grounds. But things more inviting than whale oil have, of late, vastly multiplied these visitations of the Pacific isles, and doubled the number of keels that formerly ploughed the Polynesian world. The gold of Australia has whitened the Pacific with sails, and fitted out many an Argonautic expedition. Our modern Argonautæ, unlike Jason and his fifty companions, who crept timidly along the shores of the Ægeum and Euxine, timing their oars to the music of the lyre of Orpheus, and fearful of getting out of sight of land, now push boldly out into the broad expanse of the Pacific, visiting every beautiful islet in their way—not as the Greeks at Lemnos, who engaged in amorous pastimes with queen Hypsipyle and the Lemnion women—but to gather the rich fruits of these paradise-isles of the tropics, and the fresh waters that come tumbling down the sides of their mountains.

Thus have all the principal isles of Polynesia, and every coral islet, been visited again and again, until, now, we have ample materials for describing them. The necessity of know-

ing something of this distant island-world—each isle an Ogygia, more beautiful than the fabled abode of Calypso, and worthy of the residence of such ocean-nymphs as Homer placed about her—will be more apparent when we reflect that a new empire is rapidly rising in the far southwest—in Australia—between which and our own shores these islands lie.

Oceanica, a general term, comprising all the groups of the Pacific, embracing an extent of 11,000 miles from east to west, and more than 6,000 miles from north to south. Geographers divide this immense ocean-world into three grand divisions: *Australia*, including New Holland, Van Dieman's Land, New Guinea, New Britain, New Ireland New, Georgia, the Solomon and Fiji archipelagoes, the Ladrones, Pelew, and Caroline islands, and all the clusters included in what is called Micronesia; *Malaysia*, including Sumatra, Java, Borneo, Celebes, Timor, the Philipines, and all the isles of the Soloo sea; and, lastly, *Polynesia*, the division to which we shall confine our attention in this paper. The whole of Polynesia is included in a vast triangle, the eastern side of which extends from the Sandwich islands to Easter island, 4,000 miles; the southern, from Easter island to New Zealand, 4,700 miles; and the remaining side from New Zealand to the place of beginning, 3,700 miles. This vast area embraces, first, the four volcanic or principal groups, or the Hawaiian or Sandwich islands, the Georgian and Society islands the Samoan or Navigator's, and the Washington or Marquesas islands; second, the isles intermediate between the volcanic and coral, including the Hervey and Austral, with a few others of less note; and, third, the coral islands proper, of which the Panmotu or Dangerous archipelago is the principal.

The Hawaiian islands rank first in point of number, extent, population, natural resources, &c., there being eight of them, covering an area of more than 6,000 square miles. As a peculiar political interest attaches to these islands at the present moment, we propose to dwell at some length upon them.

The geological character of the four principal groups of Polynesia, mentioned above, is well marked. Their igneous masses, extinct or smouldering craters, and their boiling springs, sufficiently indicate their volcanic origin. All these islands are, in fact, but the lofty tops of vast mountain ranges which the waters of the Pacific could not cover, and which were thus left projecting above the waters. Their vast extinct craters show that their fires were active for ages. Some of them have not yet ceased their activity. The fiery craters of Kilanea and Tofua, as also the boiling springs of Vanua Levu,

which act as escape valves for pent-up vapors, and the ebullition of molten masses, are strong evidences that their constituting element has only slumbered.* Unlike most other volcanic countries, these islands are characterised by the peculiar, almost unique formation of their mountains, most of which attain an elevation above the clouds, and some of them are capped with snow—their peaks fantastically shooting up like spires into the cold regions of the atmosphere, as at Moorea, in the Marquesas. These spires are linked together by irregular precipitous ridges; and in Borabora we have an island consisting of a curved ridge, on the surface of the ocean, with projecting spurs at almost regular intervals, while in the centre rises a perpendicular and almost inaccessible rock of basalt to an elevation of 1,500 feet above the sea.

Many of these summits of mountains in these islands are crowned with craters almost unparalled in dimensions, some of them, as that of Haleakala, being more than thirty miles in circumference. No tradition goes back to the time when they were active. In some of the islands small craters are found in the midst of forests clothed with luxuriant foliage; and frequently they occur as isolated cones, truncated, and near the shore, serving as conspicuous landmarks from the sea.

All of these volcanic islands are exceedingly rugged, resembling masses of rocks piled up in the sea, with a remarkable absence of trees and of vegetation of any kind. An idea of the rugged character of these islands may be formed by comparing the bases of some of them with the altitude of their mountains. The island of Hawaii, ninety miles long and eighty broad, has three lofty mountains, the sum of whose heights is 38,000 feet. Tahita, only about sixty miles in circumference, shoots up, in its highest culmination—Orohena—to the height of 6,993 feet above the sea. Easter island, the most eastern of Polynesia, and about 2,200 miles from the South American coast, is only about twenty miles in circuit, but full of small craters. One of these, in the centre of the island, is four miles in circuit and 800 feet deep. They are covered with vegetation.

The Hawaiian or Sandwich islands comprise what is called the kingdom of Hawaii, so called from the name of the largest island. There are eleven islands in all, of which eight are habitable, namely: Hawaii, Máni, Oáhu, Kanái, Molokái, Lanái, Niihau, and Kahuláwe. The other three, Lehúa, Molokíni, and Kaúla are rocky, insignificant islets.

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*Na Motu, p. 375.

The Hawaiian islands lie directly west of Mexico, stretching in an ESE. and WNW. direction, between the parallel of 18° 50′ and 22° 20′ north latitude, and between the meridians of 154° 55′ and 150° 15′ west longitude from Greenwich. The area of the several islands of the group is as follows:

	Length in miles.	Breadth in miles.	Height in feet.	Area in square miles.
Hawaii	88	90	14,000	4,000
Maŭi	48	29	10,000	600
Oāhu	46	23	4,000	520
Kauāi	33	28	5,000	520
Molokāi	40	9	2,800	170
Lanāi	20	12	1,600	108
Niihāu	7	7	800	80
Kahulāwe	11	8	200	60
				6,050

From this it will be seen that the entire area of the Sandwich islands is a little larger than that of the States of Connecticut and Rhode Island together; that of Connecticut being 4,674 square miles, and that of Rhode Island 1,306 square miles.

But a comparatively small portion of this 6,000 square miles is arable land. The soil is of every variety from unsurpassed fertility to that of the most barren and worthless description, and perhaps no group in the Pacific, proportionably to extent of territory, will display so broad an area of waste land.

Honolulu, in the isle of Oahu, is the only port that affords safe anchorage for vessels, during all winds, in all the Sandwich islands, though in all of the islands the natural conformation of the shores is such that artificial harbors could easily be constructed.

There are no rivers navigable for anything but boats, and that only for a short distance. Eligible mill streams, with ample fall of water, are abundant throughout the entire group. The shores of the islands, at times, are singularly bold, and then again they recede gradually from the sea with an almost imperceptible ascent for thousands of feet. Nowhere do they exhibit the low swampy lands, liable to overflow from the sea, that are witnessed in other islands of the Pacific.

The islands of the greatest commercial and agricultural importance are Oáhu, Máui, Hawaii, and Kauái, all of which have foreign ports of entry. Of the other islands, Molokái has some portions which are unsurpassed in fertility; but the larger part of the island is barren and desolate. Lanái, except in some of its valleys and upon its summits, which is densely wooded, is adapted only to grazing. Niiháu, though smaller,

is more fertile. Kahuláwe is barren, and tenanted almost exclusively by wild goats. It has been used as a penal abode by the Hawaiian government.

The soil of the Hawaiian islands, in general, will yield every description of tropical products, as is sufficiently proved by a large family of exotics, which would almost be regarded as indigenous. In Hawaii and Maúi, fruit trees, grains, and a variety of esculents have been introduced from the temperate zone, and they are found to thrive as if in parent soil. This adaptation is probably common to all the islands.

The climate of these islands, if equalled, is certainly unsurpassed by that of any other portion of the globe, for it exists in every variety—moist, dry, and with every gradation of heat and cold, from the torrid to the frigid zones. This is owing to the variety of elevation which they present, and to a difference of exposure to winds. Some portions of the islands are exposed to the full sweep of the northeast trade-winds, while others are sheltered from them. In those parts exposed to the trade-winds, the condensed vapors of the ocean are borne along as clouds, which gather around the lofty mountain summits like a vast reservoir, and, bursting, shed perennial showers over the land, which clothe it with dense forests and a mantle of perpetual verdure. From the mountains gurgle innumerable rills, and larger streams, sometimes swelling to torrents, rush foaming and leaping from crag to crag, or in eddying floods roar through the dark ravines. Thus, while the windward portions have a surfeit of moisture, the leeward districts are frequently parched with drought, and only recover their natural freshness during the winter months or rainy season, which, with frequent intermission, continues for about four months, while during the remaining eight months the weather is almost uniformly fine. The average temperature of the eastern sides is about 72° Fahrenheit; and for the western, at least 4° should be added. During the winter months the thermometer sometimes indicates 60°, and continues so for several days. This applies to lands bordering the sea shore; by ascending the mountains almost any degree of temperature may be obtained.*

The Sandwich Islands, as yet, are not known to possess any available mineral wealth, and their future prosperity must therefore depend entirely upon their agricultural resources, and the advantages which they derive from geographical position. They occupy the most important insular position in the North

* *Na Motu*, Appendix, pp. 401, 402.

Pacific. This renders them the sole rendezvous of the immense whale fishing fleet, and the fixed resting places for all trading vessels sailing between California and China or Australia. They are directly between California and Australia; and although not directly between California and China, yet as all sailing vessels have to consult prevailing winds and ocean currents, rather than the most direct route, the passage from California to China, via the Sandwich Islands, is the nearest that the prevailing winds and currents will allow sailing vessels to take. The port of San Francisco is in latitude 37° 48′ N., longitude 122° 21′ W., and Shanghai is in latitude 30° 1′ N,, longitude 122° 6′ E., and the shortest distance between the two places is 5,400 miles; but owing to the westerly winds prevailing north of the tropics, and, of course, north of the Sandwich Islands, all vessels sailing from San Francisco to Shanghai must proceed in a southwest direction at first, towards the Sandwich Islands, and from those islands sail westward within the tropics, borne along by the trade-winds, following a course from 800 to 1,200 miles south of the direct line of distance, until when within about 2,000 miles of the Chinese coast, they steer directly to the northward to Shanghai. This is the general route for sailing vessels. The distance from San Francisco to the Sandwich Islands is about 2,100 miles, and from thence to Shanghai 4,400; and allowing for necessary deviations, a distance of more than 7,000 miles is traversed in sailing from San Francisco to Shanghai.

On their return an opposite course is pursued, vessels steering to the northeast to avail themselves of those westerly winds, which they before avoided by steering to the southwest. Vessels from Hong Kong, directly west of Mexico, are obliged to sail northward along the coast of China as far as Chusan, or the southern isles of Japan, and then, out of the tropics they have the full benefit of the easterly winds, for the aid of which vessels sometimes sail as far north as latitude 44° N., on the return voyage.*

Thus, we see, the Sandwich Islands are in the direct necessary route to China and Japan. Honolulu, the only natural and safe port of the Sandwich Islands, in latitude 21° 19′ N., and longitude 157° 52′ W., is situated, with comparatively slight deviation, in the track of many important routes. From San Francisco to China, and from the former port to Australia, no great deviation is required to touch at Honolulu, and it is directly in the proposed route of steamers from Panama to

* *Na Motu*, pp. 393–4.

Shanghai, being distant from Panama 4,500 miles. All vessels visiting the northern Pacific find it convenient to touch at Honolulu, whether they come from Australia or from South America. It is distant from Sydney 4,400 miles, and from Valparaiso, 5,760 miles. Of all whaling expeditions it is the grand nucleus.

Of Honolulu we have no very ample materials for a description; and yet the growing interest which is taken, in this country, at the present time, in everything appertaining to the Sandwich Islands, renders some account of it desirable. Honolulu is the capitol of the kingdom of the Sandwich Islands, called the kingdom of Hawaii. It is situated on the southeast side of the isle of Oahu, on a broad plain between the sea and a range of lofty sterile mountains, whose entire elevation present not a single tree, or vegetation of any kind. The entrance to the harbor, which is small, is through an intricate passage in the coral reef, well defined by buoys. With a fair breeze vessels may enter and depart without difficulty. In 1840 Honolulu contained between 6,000 and 7,000 inhabitants. Of late years, like San Francisco, it has grown rapidly and become a considerable city, resembling so much an American town that, but for the tropical scenery in the distant landscapes, the stranger would fancy himself in an American city. The substantial warehouses along the wharves give the place an air of business and of substantial enterprise.

The town, with all its neatness, has some irregularities in the arrangement of its streets, which, instead of crossing at right angles, sometimes intersect each other diagonally, forming triangular and irregular lots. A few of them are inconveniently narrow. The principal is Main street, a broad thoroughfare bisecting the town through its entire length, stretching away to Pearl river on the west, and to the plains of Waikiki with its cocoanut groves on the east. This is crossed at right angles by Nuuánu street, which, commencing at the sea and passing through the compact portion of the town, descends a gentle declivity and continues up the beautiful valley of Nuuánu, adorned by villas and luxuriant vegetation, until, at a distance of seven or eight miles, it terminates at the "Páli," an abrupt precipice, memorable in the Hawaiian annals as the spot where the hosts of the King of Oahu took their fatal leap before the victorious arms of Kamehaméha the Great. The streets are generally kept neat and clean, and the light or substantial dwellings of foreigners are scattered at irregular intervals on either side, some of which are elegant. The material of which they are built is wood, and sometimes

coral blocks taken from the reef; these being covered with cement, and tastefully shaded, resemble granite or freestone, and the whole dwelling, with its spacious verandahs and green venetians, has an inviting appearance.

Among the public buildings of Honolulu is the government house, a two-story edifice substantially built of neatly dressed blocks of coral. It was formerly occupied by the legislative council during its sessions, but is now devoted almost exclusively to officers of the home and foreign departments. Over the arched gateway of the court has been placed, by way of ornament or effect, the gilded diadem of regal dignity. The custom-house is a plain three-story building, conveniently located near the water, without decoration or architectural pretensions. The market, a neat and appropriately constructed building that would be an ornament to any town, stands near the principal wharf. The court-house, on Fort street, is a more elaborate structure than any of the other public buildings. It serves for a capitol, halls of justice, and for ecclesiastical convocations. All of these public buildings are of coral, and within a circuit of a quarter of a mile.

On Main street stands the palace, barely visible, owing to its being surrounded by massive walls of coral inclosing a garden of young trees. The palace itself is roomy, having spacious apartments, some of which are decorated with relics of antiquity, and others with designs of art.

A fort stands at the water's edge, before the town, but is used more as a prison than as a means of national defence. A few sentinels may be seen lounging about its ramparts, but its military aspect is far from formidable, The wharves of the city, at present, are substantial, alongside of which vessels of a large class may lie and discharge their cargoes. Within a few years carriages have been introduced into Honolulu, and neat equipages now roll along the streets that were formerly disturbed only by the equestrian or small vehicle drawn by hand, which latter mode of conveyance has not yet entirely gone out of use. The street scenes are of all sorts—a medly of costumes and creeds, colors and castes. The worshippers of Fo step nervously along in their flowing robes of embroidered silk, and the straggling Lascar re-adjusts his turban as he leers at the native syren. Garments that would be cynosures upon the Boulevard are in juxta-position with dress-coats that might have distracted the belles of half a century ago. Fashions of all ages and climes are tolerated with impunity at Honolulu, and the windows of the shops of the principal streets sufficiently attest that its inhabitants are not

strangers to the luxuries of modern art and refinement. The Hawaiian belles gad leisurely, hand in hand, through the streets, some with wreaths on their heads, and others sporting a fine Panama with ribbons. "Shopping" is as well understood at Honolulu as in Broadway; and the tropical beauties of Oahu are not altogether insensible to the attractions of show-windows exhibiting the most gaudy display of recently imported Parisian millinery.

Besides Honolulu the other principal towns of the Sandwich Islands are Lahaina, in Máui; Hilo, in Hawaii; and Hanalei and Waimea, in Kanai. The mountain villages are few. Lahaina is next to Honolulu in importance. It is pleasantly situated on the south shore of west Máui. From the roadstead, it having no harbor, there is something peculiarly attractive in its appearance, owing to its favorable contrast to the sterile mountains in the background, rising from 4,000 to 5,000 feet above the sea. Like as it were an oasis in the desert, it extends for nearly two miles along the shore, a luxuriant garden, having an average breadth of nearly half a mile. The site of the town is perfectly level, with a slight elevation above the sea. In the rear and on either side there is hardly tree or shrub to relieve the barren aspect. The fort, occupying a central position, is a parallelogram, built of blocks of coral, about 12 feet high, and mounting a few rusty guns of various calibre on its ramparts, which are patrolled by sentinels in ventilated uniforms.

The native church, a two-story building neatly whitewashed, is also conspicuous, with its red roof and steeple, surrounded by bread-fuit, cocoanut, and kukui trees. The stores and dwellings of foreign residents are scattered along the shore, forming a pleasing contrast to the grass houses of the natives, situated amidst groves and grouped near the water's edge.

SOME COMMERCIAL STATISTICS.

The coinage of the United States Mint and branches was in 1800, $317,760 gold, $224,296 silver, $29,279 copper, total $571,335; in 1820, $1,319,030 gold, $501,680 silver, $44,075 copper, total $1,864,786; 1852, $56,205,638 gold, $847,310 silver, $51,620 copper, total $57,104,569.

The steam marine of the United States, by report of the Secretary of the Treasury in 1852, consisted of ocean steamers 96, ordinary 382, propellers 67, ferry boats 80; total 625 of 212,500 tonnage. High pressure 213, low pressure 412, officers and crew 11,700, passengers 33,342,846, of which

24,009,550 were on ferry boats. The inland steam marine consists of 767 steamers of 204,723 tonnage, carrying 5,860,-950 passengers, of which 2,481,915 by ferry boats. That of Great Britain was but 1,184 boats of 142,080 tonnage.

The following will show the number of vessels built in the United States: In 1815, 136 ships, 224 brigs, 680 schooners, 274 sloops and canal boats, total 1,314, tons 154,624. In 1852, 255 ships, 79 brigs, 584 schooners, 267 sloops and canal boats, 259 steamers, 1,444 total, 351,493 tons.

The amount of tonnage at several periods will here be seen: In 1820, 619,047 registered, 661,118 enrolled, total 1,280,166; in whale fishery, 35,391, coasting trade, 539,080. In 1840, 899,764 registered, 1,280,999 enrolled, total 2,180,764; in whale fishery, 136,929, coasting trade, 1,176,694. In 1852, 1,899,448 registered, 2,238,992 enrolled, total 4,138,440; in whale fishing, 193,797, in coasting trade, 2,008,021. Tonnage entered 1851, Great Britain, native 4,388,245, foreign 2,599,-988; France, native 866,145, foreign 1,312,411; United States, native 3,054,349, foreign 1,939,091.

The commerce of the Lakes in 1852 was thus estimated: Owned steam, 77,061 tons, owned sail, 138,914 tons; American entered steam, 1,434,779, American entered sail, 464,822 tons; foreign entered steam, 397,587, foreign sail, 174,619 tons; American cleared steam, 1,482,548, American cleared sail, 438,862 tons; foreign cleared steam, 898,702, foreign cleared sail, 166,010 tons. Exports, $132,017,470 coasting; imports, $182,455,988 coasting; exports, $8,207,750, imports, $3,912,147 Canadian and foreign; value coasting trade $314,-473,458; value foreign trade, $12,119,877.

Ratio of Commerce, Debt, Revenues, Expenditures, etc., to the Population of the United States, 1790–1853.

Years.	Retained of imports for home consumption.	Exports.		Proportion of retained imports to each person.	Pop'n of exports of domestic goods to each person.	Proportion of debt to each person.	Proportion of revenue to each person.	Proportion of expenditure to each person.	Proportion of tonnage to 100 persons.
		Domestic.	Foreign.						
1790.....	$22,460,844	$19,660,000	$539,156	$5.72	$5.00	$19.21	$0.71	$0.88	$12.78
1795.....	61,266,796	39,500,000	8,489,472	13.42	8.65	17.68	1.29	0.95	16.88
1800.....	52,121,891	31,840,908	39,180,877	9.82	6.00	15.64	2.00	1.39	18.33
1805.....	67,420,981	42,387,092	55,179,919	10.87	6.84	18.28	2.18	1.68	18.40
1810.....	61,008,705	42,366,679	24,391,295	8.43	5.84	7.84	1.80	0.78	19.68
1820.....	56,441,971	51,683,640	18,008,029	5.86	5.36	9.44	1.74	1.36	13.28
1830.....	56,489,441	59,462,029	14,387,479	4.39	4.62	8.77	1.39	1.03	9.26
1840.....	88,961,207	113,895,634	18,190,312	5.21	6.67	0.90	1.00	1.37	12.77
1850.....	163,186,510	134,900,288	14,951,808	7.04	5.82	2.77	1.87	1.85	15.24
1853.....	250,944,094	213,417,097	17,664,553	9.92	8.44	2.23	2.43	2.18	17.42

Commerce of the United States with several foreign nations, 1790–1853.

Yrs.	Great Britain and dependencies.		France and dependencies.		Netherlands and dependencies.		Hanse Towns.		Russia.
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.
1790	.....	9,246,562	.....	4,668,902	.....	47,240	.....	478,050	.....
1795	30,972,215	9,218,540	20,388,017	12,653,685	3,699,615	2,884,817	1,663,433	9,655,524	1,168,715
1800	42,577,590	27,310,289	9,644,323	5,163,883	7,132,627	5,669,016	4,998,975	8,012,846	1,524,995
1805	.....	28,047,386	.....	21,072,747	.....	17,835,216	.....	3,282,508	.....
1810	.....	16,555,438	.....	137,630	.....	174,078	.....	1,126,382	.....
1821	29,277,988	26,522,272	5,900,581	6,474,718	2,934,272	7,688,336	990,165	2,591,275	1,852,199
1830	26,804,984	31,647,881	8,240,885	11,806,238	1,356,765	4,562,437	1,873,278	2,274,880	1,621,899
1840	39,130,921	70,420,846	17,908,127	22,349,154	2,326,896	4,546,085	2,521,493	4,198,159	2,572,227
1850	85,117,477	88,388,675	27,636,265	20,183,094	2,782,560	3,571,607	8,787,874	5,206,522	1,511,572
1853	142,219,260	145,553,624	33,525,999	27,044,479	2,549,619	2,979,332	13,843,455	8,020,053	1,278,501

Years.	Russia.	China.		Spain and dependencies.		Mexico.		Columbia, C. America, Brazil, Argentine Conf. and Chili.	
	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
1790..	.....	.....	.....	.....	1,989,421	.....	.....	.....	.....
1795..	66,221	1,144,103	1,028,242	3,942,445	4,714,864	.....	.....	.....	.....
1800..	.....	4,613,468	1,047,385	16,071,918	15,660,606	.....	.....	.....	.....
1805 .	71,372	.....	322,075	.....	12,672,768	.....	.....	.....	.....
1810..	3,975,698	.....	319,479	.....	14,941,942	.....	.....	.....	.....
1821..	628,894	3,111,951	4,290,560	9,653,728	7,218,265	.....	.....	.....	.....
1830..	416,575	8,878,141	742,193	8,373,681	6,049,051	5,235,241	4,837,458	5,528,856	4,756,347
1840..	1,169,481	6,640,829	1,009,966	14,019,647	7,617,347	4,175,001	2,515,341	9,093,688	5,891,478
1850..	864,941	6,598,462	1,605,217	15,864,748	9,981,240	2,135,366	2,012,827	16,558,499	8,125,825
1853..	2,456,653	10,573,710	3,736,992	26,030,320	11,847,101	2,167,985	3,558,824	23,280,079	8,577,131

Imports of several leading articles into the United States, 1821–1853.

Yrs.	Cotton manufactures.	Woolens.	Linen manufactures.	Silk manufactures.	Coffee.	Sugar.	Tea.	Specie and bullion.	Iron and steel manfactures.
1821	$7,589711	$7,437737	$2,564159	$4,486924	$4,489970	$3,553895	$1,322436	$8,064,890	$1,868,520
1825	12,509516	11,392264	3,887787	10,299743	5,250828	4,292662	2,728935	6,150,765	3,706,416
1830	7,802826	5,766396	3,011280	5,932242	4,227021	4,630922	2,425018	8,155,964	3,655,848
1835	15,367585	17,834424	6,472021	16,677547	10,715466	6,806425	4,522806	13,131,447	5,351,616
1840	6,504484	9,071184	4,614466	9,885757	8,546222	5,581428	5,427010	8,882,818	3,184,960
1845	13,863282	10,666176	4,923109	9,928411	6,243582	4,780720	5,761788	4,070,242	5,077,788
1850	20,108719	17,151509	8,134674	19,596858	11,284835	7,558554	4,719232	4,628,972	7,078,603
1851	22,164442	19,507309	8,795742	28,026268	12,851070	13,845904	4,798005	5,453,592	8,182,438
1852	19,689496	17,573694	8,515709	23,609279	14,474900	14,718359	7,285817	5,505,044	8,048,618
1853	27,731813	27,621911	10,236087	33,048542	15,564590	14,993009	8,224856	4,201,382	7,838,791

Exports of certain leading articles from the United States, 1821–1853.

Years.	Cotton.	Tobacco.	Specie.	Rice.	Flour.	Fish.	Manufactures.	Lumber.
1821..	$20,157,484	$5,648,962	$10,478,059	$1,494,307	$4,298,043	$973,591	$2,584,916	$1,822,077
1825..	36,846,649	6,115,628	8,797,055	1,925,245	4,212,127	1,078,772	5,417,978	1,988,220
1830..	29,674,883	5,586,365	2,178,773	1,986,824	6,085,953	756,677	5,320,990	2,053,289
1835..	64,961,302	8,250,577	6,477,775	2,210,331	4,394,777	1,008,534	7,294,073	3,402,934
1840..	63,870,307	9,883,957	8,417,014	1,942,076	10,143,615	720,164	9,573,462	2,926,846
1845..	51,739,643	7,469,819	8,606,495	2,160,456	5,398,598	1,012,007	10,329,701	3,099,453
1850 .	71,984,616	9,951,023	7,522,994	2,631,557	7,098,570	456,794	9,992,444	4,498,658
1851..	112,315,317	9,219,251	29,472,752	2,170,927	10,524,331	481,661	21,296,498	4,690,206
1852..	87,965,732	10,081,283	42,674,135	2,470,029	11,869,143	453,010	19,978,430	4,991,184
1853..	100,456,404	11,319,319	27,486,875	1,657,658	14,783,894	461,016	22,721,660	4,996,014

OUR GULF STATES AND THE AMAZON.

A COMPARISON BETWEEN THE AGRICULTURAL AND COMMERCIAL RESOURCES OF THE GULF STATES OF THE UNION AND THE VALLEY OF THE AMAZON.

NUMBER I.

"All the rivers run into the sea; yet the sea is not full. Unto the place from whence the rivers came, thither they return again."

Southerly winds from the Gulf of Mexico waft the clouds over the adjacent lands, where the moisture is deposited in dew-drops and rain. The earth is clothed in luxuriant verdure; rivers and tributary streams flow through a land of flowers, bearing with the current, from the States of Florida, Alabama, Mississippi, Louisiana, and Texas, articles of trade essential to the peace, prosperity, and happiness of the human family.

In no part of the territory of the United States do we find a district of country more regularly irrigated by laws of nature, than that which gently slopes to the shores of the Gulf of Mexico.

Above the point of navigation the miller may establish grist mills, the woodsman saw mills, or the manufacturer find water-power to work machinery. In these beautiful, fresh-water streams, and also in the waters of the Gulf, fisheries are valuable, and different species of turtle are taken for food.

With a few local exceptions, where diseases are sometimes introduced with foreign imports, the climate of the Gulf States is considered salubrious. The cool breezes from off the waters of the Gulf blow against the current of rippling brooks, and over the surface of broad rivers, breathing life to plants, and the animal kingdom.

Thirty millions of acres of unimproved lands lie within the States bordering on the Gulf of Mexico. With the exception of some parts of Texas, the country is principally wooded with pine and oak. The lumber trade of the south is increasing in value; northern manufactured saw-mills are profitably worked in the primeval forests. Land cleared of luxuriant natural growth, agriculturists may plant and reap sugar-cane, cotton, tobacco, and rice. These inter-tropical productions are cultivated within the Union with less manual labor and with a yield of much greater profit than the writer found the same articles of commerce produced in the valley of the Amazon, where the excessive heat and alternate rains prove a barrier to the tide of emigration.

Here at home the laboring man finds more than a tropical soil, while the orange of Florida is of superior quality to that

of the Amazon country, and the banana, pineapple, grape, and fig, are raised. The grains of higher latitudes are also produced in the Gulf States: wheat, oats, rye, barley, buckwheat, maize, and potatoes, are articles of importance for home consumption.

Nowhere have we seen a more abundant crop of lemons than on trees in the neighborhood of Tallahassee, and practical experience proves that few flowers are equal and none more beautiful than the fair ones of Florida. They are temperate, with the advantage of a tropical development.

In the Gulf States the animal family is numerous and much more congenial to the climate than domestic quadrupeds on the banks of the Amazon. Texas is a first-rate grazing country; milch cows, horses, and buffaloes, thrive on the prairie-lands, swine fatten in the meadows, and on the hill-sides flocks of wool-growers feed.

Birds of the air, forest, river, and lake, are abundant, while the farm-yards of the planter are well supplied with poultry of every description.

The tar, pitch, and turpentine trade is of greater value than that in gum elastic. While the medicinal plants of the Amazon country are more plenty, so also is the necessity for them.

Ten millions of acres of land are under cultivation in the Gulf States, yielding food and clothing for poor and distressed people living in a less hospitable climate and on a more niggardly soil.

Fifteen millions of bushels of potatoes are annually raised, and with the required means of transportation the export of this single article of food would be immeasurably augmented.

The number of miles of railroad in these States is small. People are calling the attention of government to this subject. The geographical situation of the State of Texas appears to attract unusual interest. We hear the wave of emigration dashing over her northern borders and flowing to rich and productive lands stretching far west towards the Rocky Mountains.

Suppose the reader a citizen of Austin city, the capital of Texas,—a practical business man who seeks to project the shortest route to the markets of distant lands. By the map of the United States he sees the nearest distance to the Atlantic will be a point at the terminus of a line drawn due east through Baton Rouge, in Louisiana, passing Mobile, in Alabama, and through Tallahassee to Jacksonville, on the St. John's river, in Florida—a distance of one thousand miles of

country, on which a level road may be constructed to carry freight and passengers in sixty hours. The passage from St. John's river to New York may be run by a steamer in ninety hours. Six days and six hours, then, would be the passage from Austin to New York city.

The Gulf Stream is a favorable current from the coast of Florida towards the shores of Europe, and ships may make the voyage nearly as soon from Jacksonville as from New York.

What a gigantic Southern work this would be—the five Gulf States of the Union linked together by a chain of railroad ready to haul the tea of China, the trade of Japan, and carry the Californians as they come through *El Paso* gap laden with the valuable productions of the soil west of the Rocky Mountains!

When Christopher Columbus came within a few days' sail of the New World, on his first voyage of discovery, the people became dissatisfied, and showed a disposition to violate laws and principles for the better government of all. Columbus increased the speed of his ship by changing the course from west towards the south, and soon found an insignificant island of the West Indies. He wrote home and said "*El mundo es poco*"—the world is small. Would he have said so had he half traversed the continent?

It is believed that if Columbus had kept steadily on his course he would have discovered the coast of Florida. The northerly drift of the Gulf Stream was strong enough to bring him near the mouth of St. John's river. Being in search of the short route for the trade of the *East* Indies, attention is called to his track across the ocean.

The agricultural and commercial advantages which must be developed by this projected railroad appear incalculably great. Florida possesses wealth, strength, and greatness, equal to her part, with hidden treasures in a vast extent of country untouched by the woodman's axe.—*Nat. Intel.*

TALLAHASSEE, *December* 4, 1854.

THE PRESENT HARD TIMES.

The difficulties which at present overspread the commercial world, particularly England and the United States, are the same as those which periodically involve the trading classes in difficulty, and grow almost entirely out of the system of credit on which business is conducted. It results inevitably that the money value of all commodities must, starting from a period of depression, reach a culminating point. When that point is reached, it follows that outstanding obligations, contracted for commodities at certain prices, exceed the aggregate cost which those commodities will now command, and then ensues a struggle to get out, which causes a fall in prices and enhances the evil. Great Britain, the United States, and France, produce great quantities of produce and goods, which are to

be consumed by the several populations mutually, and the surplus by other countries. The amount of goods that may be consumed depends, to a considerable extent, upon the products of the soil. Where they have failed through war, indolence, or adverse seasons, both the demand and the ability to pay for goods is proportionally reduced. For several years, ending with 1853, the production of goods had been very active under the influence of high confidence, great gold productions, abundance of raw material, and cheap labor. This great manufacturing activity, particularly in Great Britain, which affects to be the manufacturing for the world, was met by three grand events. 1st. The civil war in China, which undermined a large market for European products. 2d. Disappointment in the markets of the gold countries. 3d. The failure of the harvests of England and the Western Europe, by which a loss of at least $500,000,000 in human food was sustained, and the Russian war, by which the products of the Black Sea were lost to the commercial world, in addition to the expense incurred for the war. These four leading circumstances have combined largely to diminish the consumption of industrial products, and that state of things presents itself, which the manufacturers of England denominate "over-production," but what is really under-consumption, caused by ruined harvests and war.

The exports of Great Britain continue under these circumstances to be very large, but this must be taken to be an index of difficulty rather than of prosperity. The loss of crops, and consequent high prices of food, have diminished consumption in Great Britain, compelling large exports abroad of those goods which are usually sold at home. On her forced sales of goods, great losses are sustained. The face of the invoices are by no means realized, and the owners are embarrassed. The sacrifice of the goods in foreign markets, particularly in the United States, has an injurious influence, because it forces down the value of all goods held, and induces caution in buying. In New York, the buoyancy that attended rising markets induced a rapid rise in real estate, causing an immense outlay of capital in the building of new stores, and the wildest competition in the rents for those stores, is gradually lost under the influence of high prices for food, trade declines, sales diminish in amount and profit. A large influx of goods, at low prices, compels consumers to meet the market until the small profit is lost, and the balance, transferred to the other side of the ledger, begins to increase in magnitude. The accounts from the country come in more slowly. In the large districts, where the stores have bought on credit and sold, as usual, to farmers waiting the crop, the harvest has turned out *poor;* the payments cannot be made; the merchants ask local banks for accommodation. This cannot be granted, because coin or produce *must* go to the city in payment. In those districts where the crops are fair, and they are the majority, the payments are good. This is evident in the fact that so few city merchants have as yet failed, notwithstanding the frightful losses which have resulted from extravagance, depreciation of goods, stocks, houses, shipping, and every variety of property. The aggregate of all these in this country may be counted by *hundreds of millions.* The foundation of the whole difficulty was the loss of the European and English harvests of last year, and the remedy is in the utmost economy and prudence, supported by a good harvest next year.—*U. S. Economist.*

SILK AND THE SILK TRADE.

China may be said to be the country of silk, of which it seems to be an inexhaustible source. It furnishes large quantities to the neighboring nations and to Europe, and also clothing for the greater part of the inhabitants. There are very few, except the lowest orders, but are clad in silk garments. Our imports of Chinese raw silk, which, in 1830, did not reach 5,000 bales, now exceed 32,000 bales, (last year the imports were nearly 3,500,000 lbs.) This is quite exclusive of the manufactured silk articles. Large shipments are also made to the islands of the Eastern Archipelago, to the United States, Australia, and other countries.

The best is called Nankin raw silk, and is chiefly exported to England. The shipping returns at the Chinese ports are made up by our consuls to June 30 each year, whereas the imports into this country are computed to December, so that some little confusion hence arises in the estimates. The exports of Chinese silk to Great Britain range from 20,000 to 30,000 bales annually, but have been yearly on the increase.

In a paper read by Mr. H. Cope, on the silk manufacture of Lahore, before the Agricultural Society of the Punjaub, of which he is secretary, on the 14th of September, 1852, it was stated, that in the city of Lahore there are nearly 1,000 silk shops of one description or other.

The value of the silk manufacture at Lahore is set down at about two lakhs of rupees, (£20,000,) the quantity manufactured being about 154,254 yards. At Umritsir there are 2,205 shops of all descriptions, the occupants of which are engaged in the silk manufacture; the fabrics turned out are supposed to be worth 337,500 rupees. Mr. Cope gives us sufficient reason to consider this an under estimate, and supposes the manufacture to be in reality worth close on four lakhs. In the Mooltan and Bahawulpore districts, above three lakhs' worth (£30,000) of manufactured silk goods seem to be turned out; and about as much more is produced in the Jullundhur and other districts; the total silk manufacture in the Punjaub being worth, in all, probably about 13 lakhs of rupees, (£130,000,) nearly half of which sum is expended on the raw material.

Little or no raw silk appears to be produced in the Punjaub—a circumstance that seems singular, considering the apparent fitness of the soil, country, and climate, for the cultivation of the mulberry; the raw material employed at Lahore is chiefly brought from Bokhara or Affghanistan by the Lahore merchants. The silks of Bengal and of China are also made use of, the latter being procured from Bombay; but the small demand that exists for them, and the comparatively low prices they bring, show how much more highly the tramontane silks are prized by the consumer than those from the south.

France consumes or works up much more silk than she produces. There are in that empire no less than 130,000 looms for silk, of which the products amount to 300,000,000 francs per annum. The fabrics of Lyons yield about or nearly two-thirds of that sum—a moiety of the whole is exported—three-fifths of the exports from Lyons; the United States consume the greater part. Competition is formidable

abroad, especially in Great Britain and Germany; but it was acknowledged at the Great Exhibition that Lyons retained pre-eminence in designs and tissues. The 70,000 looms of Lyons occupy 175,000 individuals; one-half of these are dispersed over a radius of from twenty to twenty-five leagues; the others are in the bosom of the city.

Progress of the silk-conditioning establishment of Lyons during the last eight years.

	lbs.		lbs.
1846	3,520,436	1850	4,541,323
1847	3,744,183	1851	4,173,373
1848	3,105,552	1852	5,005,512
1849	4,625,900	1853	6,247,986

TONNAGE OF THE UNITED STATES AND GREAT BRITAIN, ETC.

The *Alta Californian*, a paper published in San Francisco, quotes the following passages from the Review, characterizing them as containing a "bunch of errors," &c.:

"The tonnage of the United States is 4½ millions, as large as that of Great Britain *five or six years ago*, if, indeed, upon a close calculation, the two countries do not already vie with each other."

"The annual revenue which Cuba affords to Spain is stated as $13,821,456; and the expenses of the local government, and the public works generally, as $11,659,750, making the whole annual taxation of the island $25,791,206!"

The editor goes on very graciously to remark:

"And this Mr. De Bow once held the post of Professor of Political Economy in the University of Louisiana, and is now the 'Superintendent of the Census Department' of the general government, a sort of of Bureau of Statistics at Washington."

The course of citicism runs ever thus: So much easier is it for those who know nothing at all upon a subject to deal in general denunciations than to be at the pains and labor which are necessary in acquiring information. The Alta Californian writer belongs to such a class of "ready-made" critics.

1. *As to Tonnage.* At the time the statement in the Review was prepared, the American tonnage was, in fact, as the English and American returns show, "five or six years" at least behind the British. The English returns for 1847 differed but a fraction from ours in 1852. The amount of shipping entering both countries was also in the same relation. Thus, in 1848, 5,557,000 tons entered Great Britain; in 1852, 5,292,880 entered the United States. The figures in the Review were made in a public and popular address when only round numbers could be used, and thus the American tonnage may have been slightly overstated without cause of exception. In 1852 the British tonnage was 4,424,392. It has not subsequently increased so fast as the American, which in 1854 reaches 5,661,441 tons.

2. *As to Cuba.* The *Diario* of the date January 1, 1852, states the revenues of Cuba from imports and exports for 1850, at $12,248,712, which are "exclusive of interior, ecclesiastical, personal, casual, and miscellaneous revenues." According to a note in "Cuba and the Cubans"—understood to be by a leading citizen of the island—*the amount is also exclusive of the expense of collection.* The whole revenue he estimates at double the official report, or for 1850 about $22,000,000. The statement for a later year is upon the same principle, and is no doubt correct.

NOTE.—It is intended that the commercial portion of the Review shall embrace an annual octavo volume of 350 to 400 pages, and contain a complete history of the commerce of the year, with full statistics relating to—

1. The United States; 2. Foreign countries; 3. The American States; and 4. The American cities.

Full financial and banking statistics will also be embraced, with a general mercantile miscellany.

MINING, MANUFACTURES, AND INTERNAL IMPROVEMENTS.

THE MINERAL WEALTH OF THE WORLD.

No. 1.—Iron.

PROGRESS OF DISCOVERY AND WORKING OF METALS IN ALL COUNTRIES—THE IRON RESOURCES AND PRODUCTS OF THE SEVERAL STATES OF THE UNION AND OF ALL FOREIGN COUNTRIES, WITH THE LATEST STATISTICAL TABLES UPON IRON.

The metals have, in all ages of the world, constituted pre-eminently the main-springs of civilization. Without them, man would have been as unprogressive in his character as if he had been created with a hoof or a claw in the place of his flexible all-doing hand. The use of the metals once discovered, the progress of man began; and to them may be traced every successive step in civilization. It would be a profitable and interesting theme to pursue—the progress of civilization as connected with the developement of the uses of the metallic treasures of the earth; but we have at this time a different theme to develope.

The metallic history, if we may so call it, of the New World, so full of adventure and romance, is intensely interesting and instructive. The precious metals were, indeed, the principal motive that led to the discovery of this continent; and they have ever been the exciting cause of most geographical discoveries. They are the first objects looked for in every new country, as if man was instructively guided to their pursuit.

The mines of Mexico and South America had been worked nearly a century before any settlements had been made on the shores of North America. Diligent search had been made here for the precious metals, but none were found. The brave and adventurous De Soto sought for them in all his ramblings, and lost his life in an expedition whose chief object was the discovery of gold. The French, at the commencement of the eighteenth century, explored the Mississippi, with great toil, up as far as the St. Peter's river, for the express purpose of finding gold, and were disappointed at finding nothing but *lead*. Long before that time the Jesuits had explored the great lakes for the same purpose, but found nothing but copper.

Among the first settlers of the United States who turned his attention to the metallic wealth of this country, Governor Winthrop, of Connecticut, is the most noted. Between the years 1650 and 1660 he appears to have explored, at intervals, the valley of the Connecticut, but without much success, for a reason which is now well known to all. The French discovered the copper of Lake Superior in 1659–'60. These mines, now so valuable, were known to the Indians probably centuries before America was discovered; for they bear the unmistakable marks of having been worked by a race of men who had already disappeared, and of whom no traditions, even, remain among the present degenerate Indians. They were the same, probably, as those whose civilization can now be read in the monuments of Yucatan and Central America.

While the French were roving over the continent in search of gold and silver, the immediate descendants of the Pilgrim Fathers, less ambitious, and more practical, became the first to engage in mining and smelting in North America, about the commencement of the eighteenth century. They very wisely concluded that *iron*, after all, was really the most valuable of all the metals; and while Le Sueur was descending the Mississippi with the first cargo of copper, an *iron furnace* was erecting in New England—the first on the American continent. The first mining company in the United States was chartered in 1709, for the purpose of working the copper mines of Simsbury, Connecticut. This mine was worked several years, and ten years later, in 1719, another copper mine was discovered in New Jersey, which, for a time, yielded abundantly. The New Jersey copper mines attracted considerable attention during the period between 1750 and 1760. In 1762 a lead mine was opened at Southampton, Connecticut, and one of cobalt at Chatham; but none of these proved very profitable.

In 1719–'20 the French resolved to give the Mississippi valley a thorough exploration for gold. An expedition was fitted out under De Lochon and Renault, who proceeded with a large body of mineralogists and miners to explore the country around the mouth of the Missouri. They found, however, nothing but *lead*, as before, and not much of that.

Near the close of the eighteenth century, while Louisiana was under the domination of the Spaniards, the lead region on the upper Mississippi began to be better known; and the Spaniards opened and worked several mines with great success, considering the rude state of the art of mining and smelting at that time. The ore was smelted upon log-heaps. The

great success they met with, even by these rude means, led them to seek out and introduce, in 1798, more improved methods of mining and smelting, and the business assumed a new aspect. Lead mining was commenced in Dubuque as early as 1774, by Dubuque, one of the pioneers of that period; but it was not until the cession of Louisiana to the United States, in 1803, that mining in the northwest began to assume an extended form.

The next mining operations, in the United States, in the order of time, were the gold-diggings in North Carolina, where gold seems first to have keen found in the United States. Pieces of gold were occasionally found, in North Carolina, soon after the commencement of the present century; and in 1824 gold-digging there had become an extensive business, though not very lucrative. In 1829 and 1830 the gold mania raged throughout Virginia, North and South Carolina, and Georgia, whither thousands flocked as to an El Dorado. The results, too, were not insignificant; for the annual product of the mines, in 1833–'34, exceeded one million of dollars,* from the washings alone. Afterwards, when the solid auriferous rock began to be crushed by the machinery, the production was much greater.

Simultaneously with the copper and gold mining began that of *coal* and *iron*, in this country. The first cargo of anthracite coal was sent to the Philadelphia market in 1820; but we need not trace the history of mining in this country further, in this place, as we shall have occasion to develope it more fully under the heads of the different metals. In our examination of the metallic wealth of the United States, and of other countries, at the present time, we shall begin with—

Iron.—The most useful of all metals—the first and last link in the chain of modern civilization—more valuable, in reality, than what are called the *precious* metals, since the latter cannot replace the former. If all the iron in the world were suddenly converted into gold and silver, it would be the death-stroke of our modern civilization; for since gold and silver could not take the place of iron in the arts, these would necessarily decline, and with them everything else. Gold would make a poor plough-share, or horse-shoe, and a poorer axe or steamboat boiler. Gold and jewels are now, and ever have been, "the types of ignorance and barbaric pomp;" while *iron*, by its universal applicability, has caused every important step in the gradual progress of the human race from barbarism

* Whitney's Metallic Wealth of the United States, p. 24.

to civilization—has ever been the greatest material source of national intelligence and industry.

Iron, in some form, is found almost everywhere, and in almost everything—in every stone, rock, and in the soil under our feet. The history of its manufacture from its ore, and its use, are lost in the shades of antiquity. Tubal Cain, who lived but a short time after the creation, according to the popular chronology, we are told in the Scriptures, was "an instructor of every artifice in brass and iron." Iron, too, being the most difficult metal of all to extract from its ores and fit for use, one can easily conceive how long it must have taken men, in the first ages of the world, when the arts had no existence, to arrive at a knowledge of the metallurgy of iron sufficient to enable them to fit it for use; and yet this knowledge was acquired long before gold and silver were known. The art of extracting it and rendering it malleable was, indeed, so difficult, that most of the writers of antiquity ascribed it to the gods, or deified those who were distinguished in the art.

It is very probable that iron was much more in use among the ancients than is generally supposed. Its great affinity for oxygen, which soon reduces it to oxide, sufficiently explains why we find it so rarely among the relics of antiquity. We are not to infer that the Greeks and Romans knew nothing of iron, or, at least, made no use of it, because all their tools and weapons, which remain to us, are of bronze. The researches of Mr. Layard, at Nineveh and Babylon, prove that the ancient Assyrians were well acquainted with the manufacture of iron, and that they used it, together with bronze, in useful and ornamental works. They also possessed the art of coating iron with bronze, and in this way the iron, in its metallic state, has been preserved until this day. Without the practice of this art, by the Assyrians, not a vestige of metallic iron would have been found in their ruins, and the moderns would have inferred that they knew nothing of its use. An iron pick-axe, or mattock, has been found at Nimroud, of unquestionable antiquity, the shape and workmanship of which could not be much improved upon even at the present day.

Passing over the description of the different kinds of iron ores, and their mode of occurrence in the earth, such description belonging more properly to the province of chemistry and geology, we shall confine ourselves to such a statistical notice of this and the other metals as will enable our readers to form an estimate of their comparative abundance and importance in this and other countries.

Beginning with *Russia*, the first iron furnace erected in that country was in the year 1623. From the latest official data the mean annual production of iron, in Russia, since 1838, has been as follows:

	1838—1844.	1844—1850.
Pig iron	169,000 tons.	188,300 tons.
Wrought iron	111,650 "	124,300 "

This shows an increase of 11½ per cent. in the last period of six years. The present production of iron, in Russia, is estimated at 200,000 tons of pig iron, of which about three-fourths is worked into wrought iron. The empire does not produce enough iron for its home consumption, owing, it is said, to the want of means of internal communication; and iron in the interior is so expensive that, in many districts, its use in agricultural operations is wholly unknown. Cast iron articles are manufactured at most mines where there are forges. At Petrozavolisk, in the government of Olonetz, there is an important cannon manufactory, which has been brought to a high state of perfection by the introduction of English skill—the present cannon now used against the English being the manufacture of an Englishman, named Gascoigne, imported into Russia by the Emperor some years ago.

The principal hardware manufactories of the Russians are at Tula—the Sheffield and Birmingham of Russia. There every species of cutlery is manufactured; but the chief articles of manufacture are muskets, the manufacture of which was first commenced by Peter the Great. Improvements were extensively introduced by Catherine, in 1785; but the present excellence of the manufactures is due to English skill introduced in 1817. The Russians are now paying them back in in their own coin in the Crimea!

The musket manufactory at Tula employs about 7,000 men and 9,600 women in the factory, besides 3,500 men in subsidiary occupations. About 70,000 muskets and 50,000 swords are said to be produced annually, exclusive of great numbers of carbines, pistols, bayonets, pikes, &c., &c. The iron employed comes wholly from Siberia, dug by the exiles.*

Iron is extensively diffused throughout the Russian Empire; but the principal mines are in the governments of Perm, Orenbourg, and Wiatka. The first of these governments furnishes nearly three-fourths of the whole production. There are also mines of iron in Finland, and in the governments of Wladimir, Tambow, Kalouqa, Wologda, Olonetz, and in Nijni-Nowgorod,

* Schnitzler, *La Russie, la Pologne*, &c., p. 315.

but they are of secondary importance. These mines altogether furnish only about 3 per cent. of the whole production. The latest mines of iron discovered in Russia are those of Wilna, but they are of doubtful importance. In 1844 there were worked in Russia, including Finland, 107 iron mines, of which 66 were in the government of Perm.

In Poland the product of the iron mines, in 1843, was about 3,320,410 ponds.* However considerable the entire product of the iron mines of Russia may be, it is small for such an immense empire, containing 67,000,000 of inhabitants. The iron produced is of excellent quality, and suitable for all manner of uses; but so high is the price of it that it is banished from ordinary uses, and is quite inaccessible to the poorer classes. What contributes most to this dearness of Russian iron is the great remoteness of the mines. Iron, to the great mass of the Russians, is a luxury. In Russia, as in Poland, more than nine-tenths of the wheels of carts and other vehicles of transportation are made entirely without iron or any other metal; even the axle-trees are of wood.

Many persons suppose that since Russia exports iron, it is a proof that it produces more of it than its home consumption requires; but this is a false conclusion. Besides, the exportation of Russian iron has never been very great, and it has diminished much of late years. It never rose above 700,000 or 800,000 ponds per annum, (14,400 tons,) worth about 1,000,000 of silver roubles, or $750,000. The excellent quality of Russian iron, and its adaptation to particular purposes, is the only reason why it is exported at all.†

SCANDINAVIA.—Sweden produces the best iron known. It exports chiefly to England, where its iron is manufactured into steel. The great excellence of Swedish iron is in a great measure due to the care with which it is manufactured. Only ores of the best quality are used, and the fuel employed is charcoal exclusively. About one-twelfth of the Swedish iron comes from the mine of Danemora. The iron mines of Sweden are principally situated in the central provinces; and there are said to be of them 586 in the whole kingdom. The production of iron in Sweden is limited by law. By a most singular and unwise regulation of the government, mines are licensed to produce only a certain quantity, whether the capabilities of the mine and miners will admit of more or not. In this way all enterprise is crushed, and the annual production

* The pond is 36.1 lbs.

† *Etudes sur les Forces Productives de la Russie*, par M. L. de Tegoborski, 1852, tome prem., pp. 297—300.

never exceeds 90,000 tons. The smelting furnaces and iron works are licensed to produce; some 50 tons per annum, others 400 tons, and others 500; and some fine bar-iron works are allowed to go as high as 1,000 tons. These licenses are granted by the *College of Mines*, which has a control over all iron works and mining operations. The iron masters make annually returns of their manufacture, which must not exceed the privileged or licensed quantity, on pain of the overplus being confiscated. The College has established courts of mines in every district, with supervising officers of various ranks. All iron sent to a port of shipment must be landed at the public weigh-house, the superintendent of which is a delegate of the College; so that it is impossible for an iron-master to send more iron to market than his license authorizes. Every furnace or forge pays a certain annual duty to the crown. These strange regulations of Sweden are said to have been adopted to prevent, by restraining the enterprise of iron companies, the exhaustion of the fuel of the kingdom—the coal and forests.

From the latest official returns, it appears that there has been but little increase in the production of iron in Sweden since 1840. The exportation of wrought iron has been as follows:

1834–'38,	average	79,300 tons.
1839–'43,	"	89,200 "
1844–'48,	"	92,000 "
1849,	"	88,500 "

The present production is about 150,000 tons of pig, and 100,000 tons of bar iron. It is principally sent to the following countries:

Great Britain	33,300 tons.
United States	19,850 "
Denmark	8,150 "
France	5,200 "

A small quantity in the shape of cannon, bombshells, &c., is sent to Norway, Holland, and Denmark. The number of blast-furnaces in operation in 1850, was 220; of workmen employed in mining the ore, 5,241. Norway yields, from magnetic ore, about 5,000 tons of pig-iron annually, two-thirds of which is worked up into wrought iron, and the other third into castings.*

GREAT BRITAIN.—Iron ore is generally diffused over England. All the great iron works are concentrated in the coal districts,

* Whitney's Metallic Wealth, pp. 446-7.

coal being the fuel used in reducing the ore. Wood was used at first, until 1740. The working of the iron mines of England dates back to the earliest times. The Romans, and probably the Britons, had iron works in the forest of Dean, and elsewhere in the kingdom. In 1615 the annual production was about 180,000 tons. Owing to a scarcity of wood, the production in 1750 had fallen to 17,350 tons. The first attempt to substitute coal for wood, in smelting, was made in 1620, but not with much success until 1750. Charcoal continued to be used as far as possible. In 1788 the entire amount of iron made in England and Wales was only 61,300 tons. In the same year Scotland produced only 7,000 tons, and Ireland produced no iron at all. During the seventeenth century iron was made with charcoal in Ireland, and the amount produced in 1672 was 1,000 tons; but timber had become there so scarce, that in 1788 there was not an iron establishment in Ireland.

The introduction of Watt's steam-engine, in 1788, in England, nearly doubled the production in eight years afterwards; for in 1796 the entire island of Great Britain yielded 125,079 tons. Since then the progress of the iron trade has been unprecedented. In 1806, when the insane idea of levying a tax on iron was proposed, the annual production was found to be 258,206 tons. The capital invested in the business amounted to $25,000,000. In 1823 the production had risen to 452,066 tons, and in 1830 to 678,417 tons.

The adoption of a great improvement in furnaces—the hot-blast—in 1830, was the beginning of a new era in the manufacture of iron in Great Britain. By this improvement two tons of coal would do the work of seven, with the old furnaces. The improvement was first used in Scotland, by means of which the production in ten years was increased from 20,000 to 37,000 tons.

The introduction of railroads into Great Britain largely increased the production of iron. In 1836 it was 1,000,000 tons; and in 1839, 1,248,781 tons. In 1847 and 1848, the amount had risen to 2,000,000 tons; in 1851, to 2,500,000 tons; and in 1852 to 2.701,000 tons. The probable amount of iron produced in Great Britain, in 1854, is estimated at 3,000,000 tons.*

The annexed tabular statement, which we find in Mr. Whitney's work, shows the estimated production of iron in

* Whitney's Metallic Wealth, pp. 451-2.

Great Britain at different periods since the commencement of the present century:

	Tons.		Tons.
1802	170,000	1839	1,250,000
1806	258,000	1840	1,400,000
1823	452,066	1842	1,000,000
1825	581,367	1847	1,999,608
1828	702,584	1848	2,093,736
1830	678,417	1851	2,500,000
1836	1,000,000	1852	2,701,000

The declared value of the iron exported from England, in 1851, was $52,120,685!

The production of iron in all the other countries of Europe, in 1851, was as follows:

	Tons.		Tons.
Belgium	25,000	France	514,172
Prussia	145,000	Spain	29,600
Austria	197,700	Portugal	300
Saxony	7,000	Italy	7,500
Brunswick	4,000	Sardinia	11,000
Hanover	7,000	Roman States and Naples	4,000
Other German States, in 1847	60,000	Switzerland	14,500

The United States.—The ores of iron are widely distributed throughout the United States; and our natural facilities for the manufacture of iron are unrivalled. Iron ore of the best quality is found in almost every State in the Union, and fuel is also in inexhaustible quantities; our means of internal communication, too, are, in most of the States, ample, and in all parts constantly becoming better.

As our limits will not admit of giving a minute geological description of all of the mines of iron in the different States, we must content ourselves with a brief statistical notice of the iron produced in each State.

In *Maine* the most extensive deposites of iron are on the Aroostook, about fifty miles above its mouth. The bed there is fully thirty-six feet thick, and there are other mines equally as good in the same region. Iron ore is, in fact, scattered over the whole State. The whole coast is strewed with magnetic ore, and there is neither a want of coal or wood. Several furnaces have been erected at different times, but we believe that there is not one, at present, in operation. The ore is not difficult to dig, and is of a rich quality. Still, Maine produces no iron.

In *New Hampshire* iron ore is more abundant, even, than in Maine, and the yield is from fifty to sixty per cent. of pure iron. Some of the mines are difficult of access, but there are enough of them that are not. There is but one iron furnace in the State—that of Franconia. It was erected in 1811, and

produces, or did produce a few years ago, about two and a half tons of iron per day, using charcoal.

Vermont contains iron in immense quantities. The western base of the Green mountains is, we may say, almost entirely iron ore of the tertiary age, and bog ore is scattered throughout the State. In 1849 there were ten blast furnaces in operation, producing about 4,000 tons of iron per annum, but capable of yielding double that amount.

In *Massachusetts* iron has been manufactured ever since 1702, when the first furnace was erected at Pembroke. Near the beginning of the present century ten furnaces were in operation, but they stopped for the want of ore and fuel. The best ores at present in the State are west of the Connecticut. They are extensively worked, using charcoal exclusively, which, however, cost only from five to seven and a half cents per bushel, delivered at the works. In 1849, in Berkshire county there were seven furnaces, hot-blast, and all using water power. The ore-beds of West Stockbridge are very rich. The mine is opened for a third of a mile in length, and the solid vein of ore is more than ten feet in thickness. The amount of iron produced, in Massachusetts, is about 12,000 tons annually.

Connecticut has many iron mines, but they are not all worked. In Roxbury is a great mine, the vein of which is from six to eight feet in width, but it lies unworked. The best mines are in the northwestern corner of the State, and are of the same excellent character as those of western Massachusetts. They give employment to five furnaces. In Litchfield county there are sixteen furnaces, capable of yielding 12,000 tons per annum. These are supplied from the Ore Hill mine at Salisbury. This mine is a vast deposite of hematite ore, of the tertiary formation. The iron is of the finest quality. This mine alone has produced, during the last fifty years, some 300,000 tons of ore. The iron manufactured from the Salisbury mine costs the producers from $20 to $23 per ton.

In *New York* the deposites of iron ore are on a most extensive scale, and of the most varied character. The rich mines of Columbia and Dutchess counties had in operation seven furnaces, in 1849. Some of them seem inexhaustible. The Amenia bed of ore had been worked to the depth of forty-five feet in 1838, and it is not yet known how much deeper the vein extends. The ore yields fifty per cent. of pig iron, and the mine about 5,000 tons per annum. The Prescott ore-bed in Columbia county has been penetrated to the depth of thirty-two feet, without finding the bottom of it, the ore all the

while improving in quality. In Putnam, Orange, and Westchester counties are immense quantities of iron, but for the most part neglected. Professor Beck thinks that no equal area, in any part of the globe, contains so much iron. The most astonishing beds of iron ore exist wherever mines have been opened, but little has been done thus far.

The entire northern region of New York, from Lake Champlain to Lake Ontario, is exceedingly rich in ores of iron of the first quality.

New Jersey is also immensely rich in mines of iron. These mines are scattered over the northwestern part of the State. The most extensively worked beds are those of Morris county. There were in Morris county, in 1853, about fifty forges in operation, with ninety fires, each fire yielding about seventy tons of blooms and bar iron annually, with a consumption of 42,000 bushels of charcoal. There are extensive rolling mills at Dover, Rockaway, Powerville, Boonton, and Charlottenburg. The Boonton works are among the most extensive and best managed in the country. The blast furnace produced, in 1851, more than 5,000 tons of pig iron, using 10,000 tons of anthracite coal. The same establishment produced in seven months, in 1852–'3, 3,774 tons of pig; 3,009 tons of rolled nail-plate; and 885 tons of rolled spike-rod; also 836 tons of railroad spikes, and 5,617 of cut nails. The five rolling mills, mentioned above, employ five hundred hands, and work up 16,000 tons of iron, consuming 9,000 tons of anthracite. They produce 13,780 tons of bar iron, hoops, nails, spikes, &c., worth $1,000,000.

Pennsylvania would require a volume in order to give a complete account of its iron resources, even with what we already know of them; for the geological survey of the State, which has been going on ever since 1836, is not yet finished. Almost the whole State may be said to be one continuous mine of coal and iron. Its coal mines extend over a surface of 15,000 square miles, a surface greater than that of the whole of the State of Maryland.

According to the State geologist, the ores used in the iron works of Pennsylvania are the magnetic, the brown oxide of iron, and the compact carbonate. The two latter are the most extensively diffused. The ores yield from sixty-three to sixty-five per cent. of metallic iron. Of the sixty-two counties in the State forty-five contained iron works, in 1850; and in nine out of the seventeen remaining counties iron and coal were abundant, their remoteness being the only drawback. In 1850 there were three hundred and four iron furnaces and

bloomeries in the State, employing a capital of $12,921,576. They were capable of yielding, annually, 550,959 tons of marketable iron. In 1847 they produced 389,350 tons, and in 1849, 253,370 tons.

In 1850 Pennsylvania had in operation two hundred charcoal furnaces and rolling mills for the conversion of cast into wrought iron. The capital invested was $7,580,500. The quantity of wrought iron produced in 1847, was 203,727 tons; and in 1849, 136,853 tons. It had also, in 1849, thirteen establishments for the manufacture of steel, producing 6,078 tons, annually.

The total iron industry of Pennsylvania, in 1850, may be summed up as follows:

Blast-furnaces and bloomeries	304
Charcoal furnaces and rolling mills	200
Capital invested in lands, buildings, and machinery	$20,502,076
Number of men employed	30,103
Number of horses employed	13,562
Number of men otherwise dependent on the iron works for their support	11,513
Value of wood and coal consumed	$4,879,884

The progress of the iron manufacture in Pennsylvania, since 1828, may be seen in the following table, showing the amount of pig iron produced at different periods. It is complete from the Census returns of 1850. Some of the amounts are thought to be quite too small:

	Tons.		*Tons.*
1828	24,822	1844	246,000
1830	31,056	1846	368,056
1840	98,395	1847	388,805
1842	151,885	1849	253,000
1843	190,000	1850	285,702

Since 1850, according to Mr. Whitney, the increase of production has been very considerable. It is to be regretted that we cannot give returns down to date.

Maryland has carried on the manufacture of iron extensively and successfully ever since 1756, at which time it had eight furnaces and nine forges in operation. The ores used are from the tertiary and the coal measures principally; and the greater part of the furnaces are situated near tide-water and in the coal region, which covers an area of five hundred and fifty square miles. The principal works are in Alleghany county. In 1853 there were in Maryland thirty-one blast-furnaces, capable of producing 70,500 tons of iron annually. According to the Census of 1850, there were then in the State eighteen blast-furnaces, producing 43,641 tons of pig iron.

In *Virginia*, which also abounds with coal and iron, there were four iron furnaces in operation as early as 1732, these being among the first erected in North America. In western Virginia there is a coal field covering an area of 20,000 square miles, associated with iron. The eastern coal fields are also extensive, and in the vicinity of valuable iron ore. Hardly any portion of the United States, says Mr. Whitney, is more highly favored, as respects the location and extent of its mineral wealth than Virginia. The geological survey of the State is yet unfinished, and therefore a full statement of its metallic resources cannot now be given. Enough, however, is known to sustain the above statements. Iron is extensively manufactured at Wheeling; and according to the census of 1850 there were then in the state twenty-nine blast furnaces, producing 22,163 tons of pig iron; and thirty-nine iron works, producing 15,328 tons of wrought iron.

In *North Carolina* the manufacture of iron has made but little progress. In 1850, according to the census returns it produced only four hundred tons. The geological survey of the State has as yet afforded no information regarding iron. What has been discovered is of little value.

In *South Carolina*, according to Mr. Tuomey, there is an abundance of iron, though the returns of the last census exhibit no information on the subject. There are, however, eight or ten blast-furnaces in the State, according to Mr. Tuomey, but they yield only a small quantity of iron. The iron beds are chiefly in Union, York, and Spartanburg districts, but the geological report does not speak highly of them. Further developments are necessary before a decided opinion can be given. The ores are chiefly the magnetic, specular, and brown hematite.

But little can be said of the iron deposites of *Georgia*. In 1849 there were two blast-furnaces on the Etowah river, near Cartersville, on the Western and Atlantic railroad, which yielded about six tons of pig-iron per day, when in blast. The census returns of 1850 report three furnaces in operation in the State, yielding nine hundred tons of pig-iron and $28,000 worth of other products.

In *Alabama* an abundance of iron exists in the northern part of the State. There were eight furnaces in operation in 1849, producing about three tons per day. The manufacture in Alabama is but little developed.

Tennessee is one of the most important iron producing States in the Union. The great Appalachian coal-field extends through the State, and iron furnaces are numerous. In 1850

they produced 30,420 tons of iron. In 1849 there were ten blast-furnaces in Dickinson county alone, and five forges. The total number of furnaces in the State is forty-seven, and ninety-two bloomeries. Tennessee in 1840 was the third iron-producing State in the Union. It is now about the fifth in rank.

The resources of *Kentucky*, in respect to coal and iron, are immense. Its coal-beds cover an area of 12,000 square miles, and the bituminous coal-seams are everywhere accompanied by iron ore. According to the last census it had twenty-one blast-furnaces in operation.

In *Ohio* the manufacture of iron has of late years made rapid progress. Both coal and iron occur there together in vast quantities; but the use of charcoal is as yet very general. At Ironton, in Lawrence county, there were in 1853 ten blast-furnaces, which produced during that year 20,000 tons of pig-iron. The whole amount produced annually in that county is estimated at 28,000 tons. In 1850 there were thirty-five blast-furnaces in operation in the State, producing annually 52,658 tons, which amount is far below the quantity now produced.

In *Michigan* iron ore is abundantly distributed through the State, and there is a plenty of coal; but the manufacture of iron has not yet commenced, at least to any great extent. There are no statistics on the subject. These remarks apply only to the Lower Peninsula. In the Upper Peninsula, bordering on Lake Superior, there is iron enough to supply the world for ages. It occurs there in literally mountain masses. The ores are found at intervals in a belt of slates from 6 to 25 miles wide, extending westward into the State of Wisconsin 150 miles, and about 12 miles or less from the southern shore of Lake Superior. The iron is in many places nearly chemically pure, and needs no mining, as the ore lies in knobs and ridges at a considerable elevation above the general level, needing only to be blasted off, or worked in a quarry, like any other rock above ground. But little has as yet been done in the manufacture of iron from these rich deposites, owing to a want of facilities for transportation to market. These facilities are now afforded by the canal, just finished, connecting Lake Superior with Huron. In 1853 there were only two furnaces, which produced 800 tons of blooms. Now that the canal is finished around the falls of *Saut Ste. Marie*, the iron business of Lake Superior will be greatly increased.

Indiana and *Illinois* are both rich in iron and coal; but, as yet, they have been but little engaged in developing the extent and value of those minerals. In 1850 there were only

four blast furnaces in operation in both of those States. Geological surveys are now in progress, but as yet little is known with certainty regarding the mineral wealth of those States. If the deposites of iron and coal are as extensive and valuable as they are represented to be, both of those States will soon hold a high rank among the iron manufacturing States of the Union.

In *Missouri* there are some of the most astonishing iron deposites in the world. It contains literally mountains of the richest iron ore in the Union. There is no one who has not heard of the great Iron Mountain and of Pilot Knob in Missouri. There is iron enough there to supply the whole world for 100 generations. The Iron Mountain is a flattened dome-shaped elevation about 200 feet high. The ore is a nearly pure peroxide of iron. In 1852 there were two blast furnaces at the Iron Mountain, making nine tons of pig iron per day. The only difficulty in the way of the iron manufacture in Missouri is the remoteness of the mines from market. This difficulty will be soon overcome by a railroad now constructing from St. Louis to the iron region.

The Pilot Knob is about 650 feet high, and is capped with iron. In 1852 there was at Pilot Knob a bloomery with six fires, and a blast furnace, both making about 4,000 tons annually. The abundance and purity of the ore cannot be surpassed. There are many other localities in Missouri rich in iron that have not yet been worked. Indeed, scarcely nothing has, as yet, been done in Missouri in the manufacture of iron, considering the immense quantities which it contains.

In *Iowa* but little is known of the extent of the iron ores which it contains. It is known, however, to contain coal and iron in large quantities. Owen's geological survey of Iowa throws but little light on the subject.

Wisconsin is, like Michigan, rich in iron; but the inaccessibility of the deposites renders them of little value. They are in a country entirely uninhabited, and from 18 to 28 miles from Lake Superior. The abundance of the deposites of iron ores through the whole region is so great that only those on navigable streams will be worked for some time to come. The only iron furnace in Wisconsin is at the Iron Ridge, in Dodge county.

The condition of the iron manufacture in the United States, in 1850, may be briefly stated as follows:

Number of blast furnaces in the United States	377
Tons of pig iron produced	564,755
Rolling mills, bloomeries, and forges	422
Tons of wrought iron made	278,044
Capital invested	$17,346,425
Tons of ore used	1,579,309
Value of raw materials, fuel, &c.	7,005,289
Number of hands employed	20,448
Value of entire products	$12,748,777

The progress of the iron manufacture in the United States, since 1810, has been as follows:

	Tons.		Tons.
1810	54,000	1842	215,000
1828	130,000	1845	486,000
1829	142,000	1846	765,000
1830	165,000	1847	800,000
1831	190,500	1849	800,000
1832	200,000	1850	600,000
1840	347,000	1854	1,000,000

The production of iron throughout the world, for the year 1854, is estimated as follows:

	Tons.	Relative Amount.
Russian Empire	200,000	3.4
Sweden and Norway	155,000	2.7
Great Britain	3,000,000	51.6
Belgium	300,000	5.2
Prussia	150,000	2.6
Saxony	7,000	.1
Austrian Empire	225,000	3.9
The rest of Germany	100,000	1.7
Switzerland	15,000	.2
France	600,000	10.3
Spain	40,000	.7
Italy	25,000	.4
United States	1,000,000	17.2
Quantity made by the whole world	5,817,000 *	

By the above it will be seen, that Great Britain produces more than half of all the iron manufactured in the world, and that this country is the next greatest producer. According to Heron de Villefosse, the entire amount of iron produced in the world in 1808, was 740,000 tons. If this be correct the iron manufacture has increased eight-fold in the last half century.

Notwithstanding the inexhaustible quantities of iron ore in this country, and all our facilities for the iron manufacture, it will be seen, by the following table of imports, that we pay Europe annually millions of dollars for iron alone.

* Whitney's Metallic Wealth.

Pig, scrap, castings.	Bar and wrought.	Steel.	Manufactures.	Total value.	Total am't of iron & steel imported. Tons.
1849..115,028	196,343	6,349	$5,010,676	$14,910,361	317,720
1850.. 86,034	279,875	6,116	6,000,497	17,524,459	372,025
1851.. 75,837	298,024	7,803	7,058,182	18,738,102	381,664
1852.. 99,654	356,383	9,027	6,846,767	20,495,086	455,064

From this it will be seen that we pay foreign countries about $20,000,000 annually for iron. Of this $18,487,672 go to England; $773,674 to Norway and Sweden; $320,000 to Russia; $424,747 to Belgium; $243,427 to France; and $411,982 to other countries. These last amounts include some small quantities re-exported, and not included in the above table.

Our exports of iron and iron manufactures, in 1851, amounted to $2,273,500; and in 1852, to $2,720,000. In 1852 we imported near 500,000 tons of iron and steel, and exported about 10,000 tons of pig and wrought iron. Mr. Whitney, in his Metallic of the United States, estimates the present consumption of iron in this country at 1,500,000 tons.

Manufactures of Pig Iron in the United States, 1850.

States.	Capital.	Raw material used.		Hands employed.		Average wages per month.		Annual product.		Total value.
		Tons of ore.	Value.	M.	F.	M.	F.	Tons of pig iron.	Other products	
Alabama.....	$11,000	1,838	$6,770	40	...	$17.00	....	552	$5,000	$22,500
Connecticut..	225,600	35,450	289,225	148	...	26.80	....	13,420	20,000	415,600
Georgia.....	26,000	5,189	25,840	135	3	17.44	5.00	900	28,000	57,800
Illinois.....	65,000	5,500	15,500	150	...	22.06	....	2,700	.....	70,200
Indiana.....	72,000	5,200	24,400	88	...	26.00	....	1,850	.....	58,000
Kentucky....	224,700	72,010	260,152	1,845	10	20.23	4.70	24,245	10,000	604,037
Maine	214,000	2,907	14,939	71	...	22.00	....	1,484	.....	86,616
Maryland ...	1,420,000	99,866	560,725	1,370	...	20.14	....	43,641	96,000	1,056,400
Mass'chusetts	469,000	27,909	185,741	268	...	27.52	....	12,287	.....	295,123
Michigan	15,000	2,700	14,000	25	...	35.00	....	660	6,000	21,000
Missouri.....	619,000	37,000	97,367	334	...	24.28	....	19,250	.....	314,000
N. Hampshire	2,000	500	4,900	10	...	18.00	....	200	.....	6,000
New Jersey..	967,000	51,266	332,707	600	...	21.20	....	24,031	.....	560,544
New York ...	605,000	46,385	321,027	505	...	25.00	....	23,022	12,800	597,920
N. Carolina..	25,000	900	27,900	26	5	8.00	4.40	400	.....	12,500
Ohio	1,508,000	140,510	630,067	2,415	...	24.48	....	52,658	.....	1,255,850
Pennsylvania	8,570,425	877,283	3,732,427	9,285	9	21.65	5.11	*285,702	40,000	6,071,513
Tennessee ...	1,021,400	88,810	254,900	1,718	109	12.81	5.11	30,420	41,900	676,100
Vermont.....	62,500	7,676	40,175	100	....	22.08	....	3,200	.....	68,000
Virginia	513,800	67,319	158,307	1,115	14	12.76	6.86	22,163	.....	521,934
Wisconsin ...	15,000	3,000	8,250	60	...	30.00	....	1,000	.....	27,000
Total.....	17,346,425	1,579,318	*7,005,289	20,298	150	.....	....	563,755	259,700	12,748,727

* 645,242 tons of mineral coal used and 54,465,236 bushels charcoal.

Manufactures of Iron Casting in the United States, 1850.

States, &c.	Capital.	Raw material used.				Hands employed.		Average wages per month.		Products.
		Tons pig iron.	Tons old metal.	Tons ore.	Val. of raw material, fuel, &c.	Male.	Fem.	Male.	Fem.	
Alabama	$216,625	2,348	.....	.....	$102,085	212	.....	$20.05	.....	$271,126
California	5,000	75	.....	.....	8,580	8	.....	23.33	.....	20,740
Col., Dist. of.	14,000	545	.....	.....	18,100	27	.....	27.05	.....	41,606
Connecticut	560,800	11,396	337	.....	351,369	942	7	27.02	$8.00	981,460
Delaware	373,500	4,440	.....	.....	153,852	250	.....	23.36	.....	267,462
Georgia	85,000	440	.....	.....	11,950	39	.....	27.48	.....	46,200
Illinois	260,400	4,818	50	.....	172,330	332	.....	28.50	.....	441,185
Indiana	82,900	1,968	5	.....	66,918	143	.....	25.74	.....	149,430
Iowa	5,500	81	.....	.....	2,524	17	.....	32.35	.....	8,500
Kentucky	502,200	9,731	.....	.....	295,533	558	20	24.89	4.15	744,316
Louisiana	255,000	1,660	.....	.....	75,300	347	.....	35.60	.....	312,500
Maine	150,100	3,591	245	.....	112,570	243	1	29.00	5.00	265,000
Maryland	359,100	7,220	.....	.....	259,190	761	.....	27.50	.....	685,000
Massachus'ts	1,499,056	31,134	3,361	.....	1,057,904	1,596	.....	30.90	.....	2,285,635
Michigan	195,450	2,494	.....	.....	91,865	337	.....	28.68	.....	279,697
Mississippi	100,000	1,197	.....	.....	50,870	112	.....	37.91	.....	117,400
Missouri	197,000	5,100	200	.....	133,114	297	.....	19.68	.....	336,495
N. Hampshire	232,700	5,673	500	.....	177,060	374	.....	33.05	.....	371,710
New Jersey	593,250	10,666	350	.....	301,048	803	.....	24.00	.....	656,430
New York	4,622,482	108,945	3,212	.....	2,393,768	5,925	.....	27.49	.....	5,921,980
N. Carolina	11,500	192	.....	.....	8,341	15	.....	23.46	.....	12,867
Ohio	2,068,650	37,555	1,843	2,000	1,199,700	2,758	.....	27.32	.....	3,069,350
Pennsylvania	3,422,924	69,501	819	.....	2,372,467	4,782	1	27.55	6.00	5,354,881
Rhode Island	428,800	8,918	.....	.....	258,267	860	.....	29.63	.....	723,705
S. Carolina	185,700	169	.....	2,800	29,128	153	2	13.59	4.00	87,633
Tennessee	139,500	1,632	.....	5,050	90,085	261	8	17.96	4.50	264,325
Texas	16,000	250	.....	.....	8,400	35	.....	43.43	.....	55,000
Vermont	290,720	5,279	274	.....	160,603	381	.....	28.27	.....	460,881
Virginia	471,160	7,114	205	.....	297,014	810	9	19.91	9.44	674,416
Wisconsin	116,350	1,371	15	.....	86,930	228	.....	26.73	.....	216,195
Total	17,416,361	345,558	11,416	9,850	*10,346,265	23,541	48	.....	.....	25,108,155

*Tons of mineral coal used, 190,891; bushels coke and charcoal, 2,413,750; tons of casting made, 322,745.

Manufactures of Wrought Iron in the United States, 1850.

States.	Establishments.	Capital.	Value of raw material.	Hands employed.		Average wages per month.		Annual product.
				Male.	Fem.	Male.	Fem.	
Alabama	3	$7,000	$3,325	34	.....	$15.29	.....	$7,500
Connecticut	20	001,000	517,554	394	.....	31.59	.....	847,196
Delaware	2	75,000	35,410	47	.....	25.53	.....	88,200
Georgia	3	9,200	4,126	26	1	11.85	5.00	12,384
Indiana	4	17,000	4,425	22	2	27.45	4.00	11,760
Kentucky	4	176,000	180,300	188	.....	32.06	.....	299,700
Maryland	17	412,050	386,216	468	.....	24.31	.....	771,481
Massachusetts	58	2,561,100	2,430,583	2,472	52	29.46	12.79	*3,908,962
Missouri	2	42,200	24,509	101	.....	30.00	.....	68,700
New Hampshire	3	7,000	11,575	9	.....	31.34	.....	20,400
New Jersey	64	1,300,398	566,865	932	8	27.31	13.34	1,079,576
New York	81	1,871,650	2,305,441	2,130	.....	28.91	.....	3,758,547
North Carolina	30	170,609	50,089	262	18	10.43	4.78	331,914
Ohio	6	164,800	196,148	276	.....	29.58	.....	127,849
Pennsylvania	162	7,828,916	5,698,563	6,591	7	28.31	6.57	9,234,256
Rhode Island	2	209,400	112,128	222	.....	37.85	.....	228,650
Tennessee	42	755,050	385,616	731	55	15.20	5.00	670,618
Vermont	10	77,200	83,094	79	.....	32.08	.....	127,886
Virginia	38	747,811	531,325	1,131	.....	25.41	.....	1,098,252
Total	552	17,033,279	13,524,777	16,110	138	.....	.....	22,629,271

*Nail factories, spike and tack included.

THE INDUSTRY OF THE UNITED STATES, 1850.

PRODUCT OF MANUFATURES, MINING, AND THE MECHANIC ARTS IN THE UNITED STATES, IN 1850.

An attempt was made by the United States census of 1850 to ascertain very minutely the statistics of industry in the several States; and, although the effort was not entirely successful, an immense amount of valuable information was elicted which will serve as a basis for many instructive comparisons and deductions. The details of this information have not yet been made public by the government.

The following table includes the aggregates of all returns made by individuals or companies producing each to the value of $500 and over.

The capital invested in real and personal estate is $527,209,193; the value of raw material used, including fuel, $554,655,038; the amount paid for labor, $229,736,377, and the gross annual value produced $1,013,336,463, making 43 per cent. profit upon the whole investment. The ratio of profits in the several States is also given, presenting some anomalies which cannot at present be reconciled. Those who will examine the manufacturing returns of 1840 and 1820 will find still greater anomalies. The figures giving the number of hands employed and the value of annual product are no doubt entirely correct, the chances of error being mainly in the returns of the cost of raw material and the amount of capital invested. An average profit of 43 per cent. would not be too high for the whole industrial operations of the country. The number of hands employed of all ages was 719,479 males and 225,512 females; total, 944,991.

It will be seen that nearly one-half of the total product belongs to the middle States, more than a fourth to New England, and only about one-twentieth to the South; the slaveholding States have but one-fifth of the industrial product of the non-slaveholding, exclusively of agriculture and commerce. Profits are lowest in New England and largest in the northwest.

In 1810, Albert Gallatin estimated the annual product of American manufactures at $120,000,000. The census of that year gave 168 cotton mills with 90,000 spindles. We have now over 1,000 establishments of every description employed in the manufacture of cotton.

Product of Manufactures, Mining and the Mechanic Arts, 1850.

States and Territories	Capital.	Raw material used.	Hands employed.		Annual wages.	Annual product. *	Per cent. profit.
			Male.	Female.			
Alabama	$3,450,606	$2,224,969	4,399	589	$1,106,112	$4,528,878	94.71
Arkansas	324,065	268,564	873	30	169,356	607,436	52.31
California	1,006,197	1,201,154	3,964	.....	3,485,820	12,862,522	812.52
Columbia, District of	888,965	1,339,146	1,678	498	616,152	2,493,008	60.49
Connecticut	23,890,348	25,589,397	31,287	16,483	11,695,236	45,110,102	41.13
Delaware	2,978,945	2,864,607	3,237	651	936,942	4,649,296	28.46
Florida	547,060	220,611	876	115	199,452	668,385	45.38
Georgia	5,460,488	3,404,917	6,660	1,718	1,712,304	7,086,525	36.06
Illinois	6,385,387	8,915,178	11,632	433	3,286,249	17,236,078	78.85
Indiana	7,941,602	10,214,337	13,677	665	2,809,116	18,922,651	74.28
Iowa	1,292,875	2,356,881	1,687	20	473,016	3,551,788	55.83
Kentucky	12,350,734	12,170,225	22,445	1,940	4,764,096	24,588,488	61.97
Louisiana	5,318,074	2,958,988	5,581	856	2,086,212	7,320,948	42.79
Maine	14,700,452	13,555,806	21,856	6,222	7,502,916	24,664,135	24.52
Maryland	14,758,143	17,326,784	22,641	7,483	7,374,672	32,477,702	52.71
Massachusetts	83,357,642	85,856,771	96,261	69,677	39,784,116	151,187,145	80.59
Michigan	6,534,250	6,105,561	8,980	360	2,387,928	10,976,894	38.01
Mississippi	1,833,420	1,290,271	3,065	108	775,128	2,972,088	49.45
Missouri	9,079,495	12,446,738	15,977	878	3,184,764	23,749,265	89.41
New Hampshire	18,242,114	12,745,466	14,103	12,989	6,123,876	23,164,503	23.55
New Jersey	22,184,780	21,992,186	28,549	8,762	9,202,788	39,713,586	88.40
New York	99,904,405	184,655,674	147,737	51,612	49,131,000	237,597,249	56.86
North Carolina	7,252,225	4,805,468	10,693	1,751	1,796,748	9,111,245	34.60
Ohio	29,019,538	34,677,937	47,054	4,435	13,467,660	62,647,259	49.97
Pennsylvania	94,473,810	87,206,377	124,688	22,078	37,163,282	155,044,910	32.47
Rhode Island	12,928,176	13,183,889	12,837	8,044	5,008,656	22,093,258	30.18
South Carolina	6,656,865	2,809,534	5,935	1,074	1,128,432	7,065,518	51.60
Tennessee	6,975,279	4,900,902	11,154	878	2,277,228	9,728,488	36.56
Texas	539,290	394,642	1,042	24	322,368	1,165,588	88.17
Vermont	5,001,377	4,172,552	6,894	1,551	2,202,348	8,570,920	48.91
Virginia	18,109,993	18,103,433	25,789	8,320	5,413,764	29,705,387	34.17
Wisconsin	3,382,148	5,414,931	5,798	291	1,712,496	9,293,068	64.00
Territories. Minnesota	94,000	94,000	63	.....	21,420	57,500	12.85
Territories. New Mexico	68,300	110,220	81	.....	20,772	249,010	172.79
Territories. Oregon	843,600	809,560	285	32	388,620	2,236,640	123.10
Territories. Utah	44,400	337,381	51	.....	5,400	291,220	†
Total	527,209,193	554,655,088	719,479	225,512	229,736,377	1,013,396,463	43.43
New England States	158,115,109	153,103,881	183,238	114,966	72,317,148	274,740,063	31.19
Middle "	235,183,998	265,384,724	328,530	91,084	104,424,768	471,975,751	43.44
Southern "	37,426,626	29,343,958	49,953	7,978	10,250,700	58,635,005	37.51
Southwest "	18,440,734	12,068,377	26,114	2,435	6,736,404	26,923,276	40.93
Northwest "	78,042,726	94,784,098	131,644	9,049	36,007,357	186,662,868	71.59
Non-slavehold'g "	431,290,351	467,125,253	577,434	203,654	195,872,665	845,439,428	51.57
Slaveholding "	95,918,842	87,529,785	142,047	21,858	33,863,712	167,906,035	48.49

* Exclusive of those in families. † A loss of 116.13 per cent.

VIRGINIA RAILROAD CONVENTION.

A large number of presidents, directors, and other officers of the various internal improvement companies of Virginia, met lately at Richmond, and after considerable discussion, adopted the following resolutions:

Resolved, That it should be not only the policy, but it is the duty of each of the internal improvement companies of this State to arrange their rates of charge, and to regulate their expenses so as to secure a fair profit on their investment.

Resolved, That is due alike to the private stockholders, to the State, and to the bond holders, in all cases where loans exist or are contemplated, to carry on the works to completion.

Resolved, That a spirit of rivalry, which may lead to a ruinous reduction of rates, is liable to just condemnation, and should be restrained.

Resolved, That in view of the many different and important considerations which variously, and to different degrees, influencce, modify, and control the policy which each company represented in this convention should adopt in relation its rates of tolls and passenger fares, and of which practical experience enables the directory of each to be the best judge in the case of their own company, it is inexpedient to establish or recommend any uniform rate of tolls and for the works of internal improvements in this State.

Resolved, That the practice of giving free tickets and free passage over the public works of this commonwealth to a various class of persons, is liable to, and is becoming a great and growing abuse, most difficult to restrain and injurious to the revenues and interest of the companies owning these works, and to the commonwealth; and that, to avoid invidious prejudices and imputations against any, it be recommended to all those companies to adopt and strictly enforce a uniform restriction on the privilege of free passage, either with or without free tickets, to the following classes of persons only in the intercommunication between different companies: 1st. The President of the United States, and officers and agents of the Post Office Department. 2d. The governor, first and second auditors, treasurer, secretary of the commonwealth, board of public works, and the secretary thereof. 3d. The president and ex-presidents, directors, State proxies, chief engineers and acting assistants of all the railroads of this commonwealth, and to the president, directors, State proxies, chief engineers, and acting principal assistant of the James River and Canawha canal; conductors, baggage agents of routes connected at either of its termini with the route over which the free passage is given, and any special agents employed in the place of any of the above named persons, of all of whom, as well as of their substitutes, the production of a free ticket, or pass, or a certificate from the president or superintendent of the company to which such person is attached, shall be required as an evidence of their being entitled to a free passage. 4th. Officers of any telegraph office, not exceeding two to each, by which telegraph dispatches are sent gratuitously for the company—provided, however, that the subject of free tickets affecting persons passing exclusively over their road be under the control of each road respectively.

Resolved, That the present rates of compensation for the transportation of the United States mail are much lower than those received for the transportation of other freight, at a much less speed, and wholly disproportionate to the services rendered.

Resolved, That the convention do urge on our senators and representatives in Congress the propriety of taking prompt measures to secure the passage of an act to refund to railroad companies all the duties paid on iron imported since the 4th of March, 1851, and to reduce the duty on all railroad iron hereafter imported.

Resolved, That the legislature be petitioned to amend the general railroad law so as to affix the weight of a ton at two thousand pounds in estimating the tariff of freights on railroads, and to specify the limit which a company shall be allowed to charge as "an average of eight cents per ton per mile."

Resolved, That the transportation of freight without breaking bulk should be encouraged as far as practicable; and that wherever such an arrangement is made between two or more companies, the following regulations be recommended for their government.

Each company shall furnish, for the through business, a number of cars proportioned, as nearly as possible, to the length of their several roads, and that, to correct any inequality arising under this agreement, the company owning a car used on another road shall receive one-eight part of the freight charged on that car load by the company on whose road it is running. The losses, where the facts can be clearly ascertained, shall be paid by the company on whose road the loss occurs; and when there is any doubt, the loss shall be divided between the several companies, in proportion to the freight receivable by each company on the article lost. The damages to cars are to be repaired by the company on whose road the damage occurs, to be ascertained by inspectors appointed by each company.

Resolved, That it is the opinion of this convention that the rates heretofore charged on our railroads are not remunerative.

Mr. Garnett stated, during a discussion of the first of his resolutions, that the entire amount to be refunded to the railroads of the South would not exceed $4,000,000. Virginia, within ten years past, had not spent more than $2,500,000 in foreign railroad iron.

The rates for passengers on the Virginia Central railroad are 3½ cents per mile; Orange and Alexandria railroad 4 cents per mile; Winchester and Potomac railroad 5¼ cents per mile for local, and 2½ for through travel; Manassas Gap railroad 4 cents per mile; Seaboard and Roanoke railroad 5 cents per mile for local, and 3½ cents for through travel; Petersburg road 2½ cents for through, and 4 cents for local travel per mile; Virginia and Tennessee railroad 4 cents per mile; Richmond and Petersburg railroad 5 7-11 cents per mile for first class, and 3½ for second class travel—the second class constitutes two-thirds of the travel; South Side railroad 4 to 5 cents per mile; Richmond, Fredericksburg and Potomac railroad 4 cents per mile for local, and 3½ for through travel; Richmond and Danville railroad 4 cents per mile up to 50 miles, and 3½ for through travel; James River and Kanawha canal $3 50 for 196 miles, being 1¾ cents per mile, of which the company receives 2 mills per mile.

THE RAILROADS OF GEORGIA.

COLUMBUS (GEO.) AND HER RAILROADS.—We find in the Columbia Times and Sentinel the following particulars of the action of the voters and of the City Council in relation to the subscriptions to the Mobile and Girard and Opelika roads:

On Monday morning, the 4th instant, the polls were opened at the Court House to test the sense of the people of Columbus as to the propriety of making a further subscription of one hundred and fifty thousand dollars to the Mobile and Girard railroad, and of fifty thousand dollars to the Montgomery and West Point railroad. The immense interests involved created very unnecessary apprehensions in the minds of the friends of the subscriptions, as the result demonstrated. The voters came boldly to the polls, and, with open tickets, voted for the subscriptions in a continuous stream until the polls were closed. The unanimity very soon cooled the ardor of the friends of subscription; the result was considered certain; and this, doubtless, will account for the fact that though the vote was a large one, it is not such an one as is usually rolled in exciting political contests. However, both subscriptions were sustained by more than a majority of the legal voters of the city. For the Montgomery and West Point railroad subscription there were 411 yeas and only 24 nays; for the Mobile and Girard railroad subscription there were 397 yeas and only 35 nays. We, therefore, regard the subscriptions to both roads as sanctioned by the almost unanimous voice of the people of Columbus.

At night the council met and the return of the election was reported by the managers.

Alderman Morton moved that the further consideration of the subscription be postponed for the present, and supported his motion by a speech, in which he urged delay. Aldermen Hall, Foster, and Matheson, opposed the motion, and upon taking the vote the motion was lost—ayes 2, nays 7.

The question was then taken upon the adoption of the resolutions making a subscription of $150,000 to the Mobile and Girard railroad: ayes 7, nays 2. Adopted.

The question was then taken upon the resolutions making a subscription of $50,000 to the Montgomery and West Point railroad: ayes 8, nays 1. Adopted.

We are happy, therefore, to announce that the city of Columbus has made a further subscription of $150,000 to the Mobile and Girard railroad, and of $50,000 to the Montgomery and West Point railroad.

The result of this action will be, that in twelve months from date the cities of Columbus and Montgomery will connect by railway, and that the next crop of Chunnenugee and Union Springs, and the regions round about, will be brought to Columbus. The future prosperity of our city is secured.

EDUCATION.

COMMON SCHOOLS IN THE SEVERAL STATES.

SOUTH CAROLINA.*

The schools of our State again claim attention, and we avail ourselves of the essays named in the rubric to devote a few more words to this important subject.

Mr. Taber's speech forms an epoch in the history of our city and State. It was delivered, as we all know, in the College chapel, in Columbia, by appointment of the class of which the orator was a member. It was, therefore, so far as the public was concerned, a private affair; merely an essay, read before a class meeting for the gratification of the class, and strangers were courteously invited to attend and be pleased. The speech itself falls under that class of oratory known as the demonstrative. It was got up to order, with the laudable motive of gratifying old friends, certainly with no design of upsetting the constitution of the State, nor of deranging the order of society. The orator receives the usual meed of applause, and is satisfied with having pleasantly and gracefully acquitted himself before his old friends. All seems fair, and the oration (be it said, without any disparagement) bids fair to travel the way of all orations, when, lo! a journal from the mountains denounces it as advocating aristocratic tyranny; the orator is burnt in effigy in Columbia, his house in Charleston visited by an insulting mob, and his family outraged by persons calling themselves Carolinians, and a public meeting is held, at which (without a single passage from his speech being read or quoted, to give a shade of color to their outrageous and atrocious proceedings) the speech and its author are solemnly held up to the public as objects of scorn and denunciation, and the proceedings duly recorded in the city journals of the following day.

The citizen of Charleston feels his brow suffused with the blush of shame whilst he thus records the conduct of his townsmen. He has not hesitated to call their proceedings

* We are indebted to the Southern Quarterly Review for this paper. It is the first liberty of the kind we have taken with our neighbor, in whose editorial service a part of our younger days were spent and for whose welfare we have always felt a filial solicitude.

1. *Essentials of a Republic;* an Address delivered before the Class of 1848, at their Quinquennial Meeting, in Columbia. By W. R. Taber.
2. *Letter to his Excellency Governor Manning, on Public Instruction in South Carolina.* By J. H. Thornwell. Columbia: R. W. Gibbes & Co. 1853.

outrageous and atrocious. It is a deadly blow aimed, not at the liberty of speech alone, but even of opinion. Mr. Taber's speech was one in which the public had no concern. It was prepared for the entertainment of his classmates. It was not even printed. If his sentiments had been those of a noble of the age of Froissart, had they even exceeded in aristocratic malignity all that the fertile imagination of his Greenville commentator could conceive, still the speech was but the private, nay, in some sort, the confidential expression of his views. He appeared in no public capacity. He carried no pretensions beyond those of a very clever young man. The country was in a state of profound repose. No interest was under discussion which could elicit the slightest agitation in men's minds. Had he advocated the expediency of elevating one of his classmates to a despotic throne, no harm would have followed. Nay, had he even proposed the murder in cold blood of the people represented as so offensive to his aristocratic tastes, every mother's son of the people would have slept that night in as perfect security of life and liberty as if the aristocratic ukase had never been issued. Such extravagances deserve no notice but silent contempt. But when it appears that the only fault of Mr. Taber is, that he aims at so much for the people that the most sanguine democrat must pronounce him a visionary; that he aims to abolish democracy by elevating every citizen to his own aristocratic level—we would ask those who so grossly and inhumanly insulted and abused him, on the mere statement of a remote newspaper, what reparation can they make for their folly? by what noble acts of citizenship do they propose to wipe off the stain which they have so cruelly attached to our escutcheon?

Oratory has been hitherto rather a favorite exercise among our young men. The candidate for popular favor embraces eagerly the opportunity of treating the public with a brick from his collection of moral and political wisdom, and profits by the occasion to bring forward his best samples. But the events of December last may materially change our condition in this respect. A garbled report may raise a serious storm about the young orator's head. It is pleasant to bask in the sunshine of popularity; but few men can receive an insulting mob with perfect indifference. It is a goodly thing to see our statues adorning the market place and thoroughfares of the city, but it is not agreeable to see our own effigy committed to the flames amid the shouts and execrations of an enraged populace. It is gratifying in the highest degree to be the object of complimentary resolutions, but it is like the shadow of

death to find public opinion organizing itself to pronounce our condemnation. If these insults and execrations fall upon one who is conscious of deserving them, nothing can palliate the pain of the sting which they inflict; but the right-minded and innocent man may sustain himself under all these outrages, by his indignation at the presumption of ignorance, and his contempt for those who undertake to condemn without even knowing wherefore.

But we have suffered ourselves to be diverted from our subject—the free school system of South Carolina—about which, as a new election will take place before the legislature assembles again, we desire now to say a few more last words.

The subject of popular instruction has so far interested our legislature, as to induce it to make an appropriation for the year 1853 of double the usual amount for the maintenance of free schools in the State. We looked with some interest for the results of this legislative liberality, and as the schools were, at the last session, reduced to their usual stipend, we must conclude that the hopes entertained from the increased allowance have been disappointed.*

A spirited movement was made, we are told, during the last session, in behalf of schools, by Mr. Tucker, of Spartanburg. We regret that Mr. Tucker has never published his speech; we regret it, particularly, as we understand that he conceived it necessary to make a special reply to our article on the subject. We know that we have been denounced in many quarters as holding very unsound views on this subject, but we confidently believe that if we could only understand each other, our opinions would be found in no wise to differ from those of the most ardent advocate of schools in the State. We have been conservative, because we feared that the whole system might sink under the hands of the reformer. Our opinions are the result of much thought, based on an intimate acquaintance with the workings of our system in one of the lower districts, for more than a dozen years. No one feels more sensibly than we do the importance of schools to this particular section; and it was with a view to save them, that we deprecated any change—believing that the result of the inevitable failure of any general system, which might be adopted, would be the abandonment, in disgust, by the State, of the whole school system.

Nor were our fears groundless. Throughout the State, the

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* In this, we are incorrect. The double appropriation is continued for the current year.

schools are denounced as useless, inefficient and inadequate. We know them to be useful, and, to a certain extent, efficient, though certainly inadequate to the wants of the people. We have seen instruction furnished by these humble schools, to many persons who, but for them, would have grown up in gross ignorance. The schools which do this, cannot be called useless. True, the instruction has been confined to the simple elements of reading, writing and arithmetic. But what an immense advantage do they possess, who have this key to knowledge, when compared with those who are entirely without it? The report for the year 1847, (the only one which lies by us,) shows that the number of children throughout the State, who enjoyed these advantages, was 7,188, at a cost to the State of $33,527, being an average of about four dollars per child. Such a fact bears conclusive testimony to the usefulness of our system, however defective it may be. In order to judge of its efficacy, or its adequacy to our wants, another class of facts is necessary—that, namely, which shall exhibit the number of children of seven years old, and upwards, who have no means of going to school. This class of facts remains yet to be ascertained. Some approximation to it may be made. The number of children attending the free schools in Charleston, in 1847, was about one in fifty of the white population of the city, The number of children in all the free schools of the State, was in the same proportion, about one in fifty. It is probable, therefore, that not many children are to be found in any part of the State, who have no access to schools; but this can be ascertained only by inquiries specially directed to this object.

Now, we cannot too earnestly declare our opinion, that the only kind of instruction which the people have a right to require at the hands of the State, is elementary instruction. It is a disgrace to a State, that a considerable number of her citizens should be unable to read and write. This kind of knowledge is necessary to link man with humanity. We do not say that more is not desirable. But we know that many children have not the time to acquire even this; and we know, also, that he who possesses this, may, if he has the leisure, extend his acquirements to any conceivable point. The temple of knowledge is one of infinite degrees. Let the State provide every child with the key whereby he may enter its portals. Fortune and opportunity must accomplish the rest.

As to those gentlemen who advocate a more magnificent scheme, we admire their enthusiasm, but question their practical knowledge. In the rural districts, where the children

constitute a portion of the wealth of the parents, the children are fortunate if they can get even the elements of instruction. You may spread before them a sumptuous table, but they have no time to partake of its dainties. In the cities, more may be done, and more is done. The schools in Charleston will bear a comparison with those in any portion of the United States.

That the many devoted friends of education should have failed in inspiring the State with a portion of their zeal is somewhat remarkable. We suspect that the failure originates in their not having exposed the root of the evil which they deplore, and in not being prepared with any project of a plan by which they would supersede the present system. They who advocate reform effect but little of their object, if they only show the evil to be redressed; they must shadow forth the good which they would accomplish, and give us, at least, a sketch of the process by which they propose to amend. The eloquence of denunciation is easy; and nothing affords a more ample field for this sort of eloquence than our schools. But humble as they are, and open to a thousand objections, they have acquired a stubborn hold upon the good will of our citizens, and appear proof against the designs, not only of the foe who would destroy, but of the friend who would improve them. Of the latter, there appear to be numerous divisions. Some, like ourselves, desirous of having every child taught to read and write; others, are dazzled by the sight of picturesque school houses and well paid teachers, imparting all kinds of knowledge to admiring little auditories; and, last of all, comes Dr. Thornwell, who would have the State adopt some peculiar plan of instruction, about the nature of which he deigns to give us no explanation, and whose only fear is, that our children's education may be provided for, if the State does not hasten, at once, to occupy the field with its system. The following passage from his letter indicates a more hopeful condition of the public mind than we had imagined. He says, page 31:

"The State should make some speedy provisions for popular education, in consequence of the universal demand, which, in some form or other, is indicated as existing in every section of the country. There never was a greater cry for schools; the people are beginning to appreciate their importance, and at no period within my recollection have such strenuous efforts been made to establish and support them. The extraordinary exertions of the various sects—exertions too, which deserve all praise, considered as attempts to satisfy an acknowledged public want—and the success which has attended them, are proofs that public opinion is ripe, in South Carolina, for the interference of the legislature, and if it should not speedily interfere, this great and mighty interest will pass completely out of its hands, and be beyond its regulation or control. It is a critical period with us in the history of education. The people are calling for schools and teachers; and if the State will not listen to their cries, they will be justified in adopting the best expedients they can,

and in acceding to the provisions which religious zeal proposes to their acceptance. Our people are not, as a body, in favor of sectarian education. They prefer a general and unexclusive system, and if they adopt the narrower, it will be because their own government has been inattentive to their interests. I sincerely hope that the legislature may be duly sensible of the delicate position of this subject. To my mind, it is clear as the noon-day sun, that if anything is to be done, it must be done at once. Now or never, is the real state of the problem."

We confess our utter astonishment at this whole paragraph. Can it be really true? Is the State indeed threatened with a flood of schools, and that so speedily, that unless the legislature promptly interpose, they will be fastened upon us forever? If this be so, let the legislature hold off, in the name of God, and welcome, as a blessing, the threatened visitation. We can hardly believe our senses. There is Dr. Thornwell, deprecating as an imminent evil, a state of things which, in our blindness, we have always considered the most desirable, but never dared hope to see in our country—religion, the churches guiding and directing the instruction of our children. This is the one thing which has always appeared a desideratum. Let the instruction of our children become the voluntary care of our churches, and our legislature may rest satisfied that the work is done for them. The children are in the best of schools. Covered by the mantle of religion, attempt not to defile them by the profane hands of a political minister of state. And why should the State interfere to prevent so desirable a result? Dr. Thornwell's reasons are to be found in the following paragraph, which we quote, because, though it reads well, and carries a great air of thought, we confess suggests no clear thought to our own mind. He says:

"The State should take the subject in hand, because this is the only way by which consistency and coherency can be secured in the different departments of instruction. Education is a connected work, and its various subdivisions should be so arranged, that while each is a whole in itself, it should be, at the same time, a part of a still greater whole. The lower elementary education should, for example, be complete for those who aspire to nothing more; it should likewise be naturally introductory to a higher culture. It should be a perfect whole for the one class, and a properly adjusted part for the other. So, also, the higher elementary education, that of the grammar school, should be complete for those who are not looking to a liberal education, and yet, in relation to others, subsidiary to the college or scientific school. This unity in the midst of variety, cannot be secured without a common centre of impulse and of action. There must be one presiding spirit, one head, one heart. Education will become a disjointed and fragmentary process, if it is left to individuals, to private corporations and religious sects. Each will have his tongue and his psalm, and we shall have as many crotchets and experiments as there are controlling bodies. The competition excited, will be a competion, not for efficiency in instruction, but for members; each will estimate success by the host at its annual festivals, or the pomp and pretension of a theatrical pageant played off under the name of an examination. This is not the language of reproach; it is a result which, from the principles of human nature, will be inevitably necessitated by the condition in which the schools shall find themselves placed."—*Letter, page* 32.

Only think of our depreciating the evils of excessive competition, when to twenty thousand of our citizens a book is a mystery! We can understand, of course, the latter parts of the passage, but we confess that the former part conveys to our mind no definite meaning. We presume that the sectarian schools will teach reading, writing, and arithmetic, and we suppose that these are introductory to a higher culture when that is desirable or attainable—and we are unable to conceive how a minister of state in Columbia can give any more efficacy to instruction in these elements than the christian minister who undertakes it as a labor of love. The notion of education being a connected work, and of its various subdivisions, and being so arranged that while each is a whole in itself, it may be, at the same time, a part of a greater whole, sounds extremely well; but we imagine that, when subjected to the test of explanation and illustration, will prove to be, after all, nothing but a sound. If it means that the same books shall be used in the several schools throughout the State, it means very little, and this is an advantage hardly worth contending for. Dr. Thornwell is used to speak *ex cathedra*, and may not always choose to be explicit; but, in a case like this, he owes it to himself and to the cause he so ably advocates, to give us some notion of his meaning; and, surely, while the evil which he deprecates is one which, to an old-fashioned christian, bears so many points of resemblance to good, he ought not to have left us in the dark as to the greater good which he would provide for our children. For ourselves, until we can be so enlightened, we shall rejoice to hear the sweet harmony of psalms uttered by the little voices under the direction of our churches; and if, indeed, the fears of the doctor have any foundation in truth, instead of sympathising with him, let us rather thank God that he has so stirred up the spirit of our churches, and with unflinching confidence commit our children entirely to their care.

But we fear that the reverend doctor is deceived, and that he has mistaken the occasional planting of a humble school for the invasion of a host of sectarian missionaries. We have constantly present, in our thoughts, twenty thousand of our citizens who cannot read a psalm, and we imagine that the true issue before the legislature is not to prevent the flooding of the State with sectarian schools with their uncouth melodies, but the providing of a large number of our citizens with the means of obtaining even the humblest instruction. Our business lies then with those who would provide a suitable remedy for this evil. We make no issue with Dr. Thornwell,

convinced, as we are, that his zeal has, in this case, outstripped his discretion. Let us return, therefore, to the humbler subject of the primary instruction of the people.

Some have said that it is the duty of the State to educate its citizens. We assent to this proposition, with this modification—it is the duty of the State to *provide* for the education of its citizens. Every duty implies a correlative right; and if it is the duty of the State to educate its citizens, it must possess the right to compel every citizen to receive an education. How such a right could be exercised in our State against unwilling citizens, it would puzzle the most ingenious jurist to determine. The right to *provide* for their education may, on the contrary, be exercised in a variety of ways. Our intention is to indicate that way which appears the most simple, the most feasible, the most efficient, the most just.

It is a remarkable fact, that whilst the manners and habits of our State are eminently centrifugal, all of our politicians and philanthropists have strong centralizing tendencies. The State is to be the centre of all action. With her is to originate all improvements, and her bounty is to furnish the means for accomplishing them. Now, in all the efforts of the State to afford material aid, she has but one measure of even-handed justice. The ratio of representation is her only safe measure for the distribution of her treasure. Common sense must show clearly that, with such a measure, the most extravagant appropriations must be wholly inadequate to the wants of some districts, while others would receive more than sufficient as their share of a very moderate dole. No centralizing system can exactly supply the demand. The deficiency, on the one side, will always counterbalance the plethora on the other.

This is precisely the fault of our free school system. Supported entirely by the bounty of the State, the schools in the several districts depend not upon the wants of the district, but upon her representative number. Thus Charleston, which contains an area of perhaps twenty square miles, is entitled to eighteen schools, whilst Horry, with her thousand square miles of territory, is entitled to one. Now, Charleston certainly does not require eighteen schools for the instruction of her children, and Horry just as certainly requires more than one. But this is the necessary result of every system of centralization. It cannot be changed without trenching upon justice.

Bad, however, as the system of centralization is, in itself, its results are worse. It engenders a habit of reliance on the State, and the people forget to help themselves. We have no knowledge of Horry, but venture to assert that the district

does not contain a single primary school for the instruction of poor children, besides the one fostered by the legislature. The school, we have no doubt, is an ambulatory one, and is annually removed from precinct to precinct, to supply the wants of the people, shedding feeble and flickering rays over the whole district, instead of remaining sufficiently long on one spot to complete the work for which it was established.

Our reformers are always looking to Massachusetts, and vainly hope that we may imitate her example. To a certain extent we may; but Massachusetts presents the best field in the world for the successful operation of centralizing systems, and South Carolina the worst. At the very outset of her history, Massachusetts provided for the political division of her soil into districts or townships, not exceeding six miles square in extent, in each of which the elements of a political body are almost self-existent. Every township, its metes and bounds being once established, becomes an organized democracy, and resolves itself immediately into a representative government. In South Carolina, on the contrary, we have no organization inferior to the election district or parish, and in none of our districts, either electoral or judicial, is there any assemblage of citizens known to the law, except in the towns and boroughs existing under special corporations.

Our country has hardly a trace of governmental organization. A few magistrates are to be found, but in our parishes they are not always easily found. A board of commissioners meets once a quarter, to provide for the wants of the poor of the district; a board of commissioners meets once a quarter, to receive the reports of the school-masters and issue warrants for their salaries. The commissioners of roads meet twice a year around the festive board. The captain of the beat company is ex-officio the head of the police in his command. A stranger might live among us for years and see no traces of a government. We may assert, then, that out of our towns, no organization exists below that of the State.

Of the several boards, the only one existing by popular vote is that of the poor. Those of schools and of roads are appointed by the legislature. Until within ten years past, the commissioners of roads were actually self-existent. They filled all vacancies, and no limit was imposed on the duration of their existence. In no case, except in the election of members of the legislature, is any provision made for the lawful expression of the sentiments of the district or parish as such. You may call a meeting of the citizens for the purpose, but it

has no authority. It is but a voluntary assemblage of gentlemen. As organized members of a republic, our districts and parishes have absolutely no political existence.

In a society with such a political constitution, what chance is there for the success of centralizing systems? Let us take a single instance of the working of our present system. The parish of St. John's, Berkeley, extends from the point of junction of Cooper and Back rivers, to a point on the Santee river, to the west of Eutaw spring. The two extreme points are not far from sixty miles apart. The western branch of Cooper river, with its head waters, extend nearly the whole length of the parish, dividing it into the eastern and the western sides, communication between which must be by a ferry below, and by occasional fords and causeways above. The parish is twelve miles wide, and, therefore, contains about seven hundred square miles. This parish sends one representative to the legislature, and is, therefore, entitled to one school. It is useless to add, that this provision is wholly inadequate to the wants of the parish. What, then, is to be done? The people have no voice in the matter, and, if they had, could effect no good purpose with such scanty means. The commissioners, are, therefore, obliged to decide the question for them. They husband the treasure to the best of their ability, select such sites for the school as appear most likely to effect the end proposed by the appropriation, and by shifting the school from precinct to precinct, endeavor to extend the means of instruction to every portion of the parish. We have, on a former occasion, entered somewhat into detail respecting the mode of operation, and shall not repeat it here. On this point we speak from an intimate personal acquaintance with the subject, and we take an honest pride in the recollection of several years of faithful and zealous devotion to the cause of popular instruction. And this pride we cherish, because it is founded upon works, and not upon theories; and we regard with perfect indifference the taunts of those who charge us with hostility to the cause of education, because we are conscious that where we are known, we are known to be one of its most zealous supporters.

But whatever the zeal or the fidelity of the commissioners, the system is defective, because it is radically bad. The people are placed in the position of recipients of a favor, rather than that of independent citizens helping themselves. This is the necessary, the paralyzing result of the dependence of the schools upon the public treasury; the paralyzing result of all centralizing systems. Our remedy shall be proposed in

a very few words; but we must first return to the ancient school system of Massachusetts.

By an old law of that colony, every township which contained fifty families was required, under a penalty of £10, to provide a common school for the instruction of the children in reading, writing, arithmetic and good behaviour. If the township contained a hundred families, the penalty was doubled; if a hundred and fifty, trebled; and any township which contained two hundred families, was required by law to support a grammar school, in which children might be prepared for admission into the college.

Fifty families, on thirty-six square miles of land, cannot be so remote from each other as to be much more than three miles from a common central point. A law like this provides, at once, for the instruction of every child in the State.

Compared with Massachusetts, what opportunity have we for the adoption of any part of her school system? Clearly ours is, and must be, in a great measure, a voluntary system. The mulcting of a district or parish, is a provision unknown to our law; and in districts covering such large areas as ours do, it is impossible to determine what number of families shall be considered sufficient to warrant the compulsory establishment of schools. (We say *schools*, because no single school can suffice for the wants of any, the smallest of our parishes, and the idea of sending the children to board out is nugatory.) A complete reorganization of our political territory would, therefore, be absolutely necessary, to render feasible the adoption of the Massachusetts system. But even situated as we are, much may be done, and we propose, in conclusion, to give a general sketch of our plan; and we earnestly recommend it to the consideration of Mr. Tucker, and other enlightened friends of popular instruction, as that which will more effectually accomplish the desired end, than any other which the wisdom of the legislature can devise.

In the first place, we propose the total withdrawal of all assistance from the treasury of the State towards the maintenance of schools. We are convinced that the habit of looking to the State for aid is pernicious in the extreme. It blunts individual energy, and the people are gradually led to receive as a boon that which they ought to raise as an indispensable duty, and which they ought to claim from their school overseers as an unquestionable right. In the matter of public instruction, then, let every district and parish be thrown upon its own resources.

In the second place, let every district and parish, on a certain fixed day, (*not on the day of general election, but one specially consecrated to the purpose,*) elect a sufficient number of commissioners of schools, whose duty it shall be to determine the number and location of the schools which may be necessary for their respective districts and parishes. Give them power to elect suitable teachers, and to pay them such salaries as they may deem sufficient; and for this purpose, give them authority to *levy a tax on the citizens of their respective districts and parishes, in the nature of an assessment on their general tax returns*, to be collected by the tax collector of the district or parish. And in order to insure accountability, require that a report of their proceedings, with proper vouchers, be submitted annually to the grand jury of the district. Suitable provisions should, of course, be made to meet the case of districts refusing to elect commissioners, and of commissioners failing to discharge their duties. But this is neither the time nor the occasion for minute details. This is the outline of our plan; we shall conclude with a few remarks in explanation and confirmation.

The State of Massachusetts raises annually by taxation, for the support of schools, in the manner indicated above, $662,870. The revenue of South Carolina by taxation is about $300,000. That portion of her revenue which arises from the profits of the bank, being a sacred fund for the discharge of the debts of the State, ought not to be considered available for any other purpose. Our present appropriations for schools amount to one-eighth of our income. If to this be added the sums annually paid for the maintenance of the college and military schools, it will be seen that we devote about one-fourth of our income to the cause of education. This is a proportion sufficiently large to satisfy the conscience of the most scrupulous patriot; but, as experience has proved, inadequate to meet the ends of popular instruction. By the plan which we propose, each portion of the State will be made to bear its own share in the burden of educating its children. Under the present system, the old district of Pendleton receives back from the State treasury, for the maintenance of her schools, one dollar for every three that she contributes to the common fund —the district of Edgefield, about one dollar in seven—whilst the parish of St. John's, Berkely, receives not more than one dollar in twenty of her contribution to the common treasury; and large as is the receipt of Charleston, it does not amount to one dollar in fourteen of her general tax. This, it is true, is a very low consideration, and one of no weight in view of

the great public ends proposed by the present mode of distribution. But it becomes invested with weight, when we regard its probable moral effects. When we are made to know precisely what amount we pay for our respective schools, they acquire a new interest. When we feel that they are a cost to us, we shall be very apt to use them. We have always thought, that if parents were compelled to pay for the tuition of their children, the quarterly reports of the teachers would not exhibit such a beggarly account of lost time, as they now always do. We generally value that which costs us money, and it will be a wholesome lesson for the parent to learn, by the action of the tax collector, that he is paying for a school whether he uses it or not.

With regard to the remuneration of teachers, the general complaint is, that it is low and ought to be increased. We think this matter most safely committed to the discretion of the local boards. We have no issue to make with those who desire to see a splendid system of schools. That as may be hereafter. At present let us provide, that henceforth we shall not hear that twenty thousand of our adult citizens are unable to read or write. The remuneration now allowed by the legislature is certainly not extravagant, but it is sufficient to procure the services of competent teachers. The usual wages per month, inclusive of board, paid to the male teachers of schools in Massachusetts, is $32 46; to the female teachers, $13 60, (*American Almanac*, 1849.) The general average paid in that State, therefore, would appear not to exceed our moderate standard. Our experience teaches us, that good teachers may be had for the money; and were it not invidious, we could easily name several persons of our acquaintance, who, after receiving instruction in the schools, afterwards became teachers, acquitted themselves well in that capacity, and then, induced by hopes of higher pay, left the schools to become overseers. We have one valued acquaintance, who, after passing through this course, has filled with dignity the chair of representative of the people, and now lives honorably and reputably on the estate which he has acquired by his industry, his integrity, and his ability. When we see such results follow the schools, we cannot join in the denunciation of them, which is now so fashionable—and we are unwilling to hazard the loss of their useful aid, by any premature attempt to elevate their character. All that is needed, is to make them adequate to our wants. This is to be done, not by legislative aid, but by the action of the people themselves, through their agents elected by them-

selves for this purpose. All centralizing systems must fail, for their influence is always a paralyzing one. Our scheme is not magnificent, but it is practicable and it is efficient. We do not propose to flood the country with philosophers. We do not even see the necessity of requiring the beneficiary graduates of our military schools to forego the chance of early profitable employment, in order to discharge their debt to the State, by teaching in her schools. All that we propose is, to have every boy and girl in our land taught to read and write. Do this, and leave the rest to opportunity and a gracious Providence. F. A. P.

PROGRESS OF EDUCATION IN THE UNITED STATES AND EUROPE.

"It has," says Chancellor Kent, "been uniformly a part of the land system of the United States to provide for public schools. The Articles of Confederation, 1787, the acts admitting into the Union Ohio, Indiana, Illinois, Missouri, Louisiana, Florida, Arkansas, &c., all provided for the appropriation of lands in each township for the use of public schools. The elevated policy of the federal government, as one of our statesmen has observed, was a noble and beautiful idea of providing wise institutions for the unborn millions of the west, of anticipating their good by a sort of parental providence, and of associating together the social and the territorial development of the people, by incorporating these provisions with the land titles derived from the public domain."

Whole amount of lands appropriated by the federal government for educational purposes, to January 1, 1854.

States and Territories.	*For Schools.*	*For Universities.*	*States and Territories.*	*For Schools.*	*For Universities.*
Ohio	704,488	23,040	Iowa	905,144	46,080
Indiana	650,317	23,040	Wisconsin	958,648	46,080
Illinois	978,755	23,040	California	6,719,324	46,080
Missouri	1,199,139	23,040	Tennessee		*3,553,824
Alabama	902,774	23,040	Territories. Minnesota	5,089,224	
Mississippi	837,584	23,040	Territories. Oregon†	12,140,907	46,080
Louisiana	786,044	46,080	Territories. N. Mexico.	7,493,120	
Michigan	1,067,397	46,080	Territories. Utah	6,681,707	
Arkansas	886,460	46,080			
Florida	908,503	46,080	Total acres	48,909,535	4,060,704

* The vacant lands in Tennessee, amounting to 3,553,824 acres, were granted to the State provided $40,000 of the proceeds, if they amount to so much, be applied to establish and support a college.

† Donations not yet reported.

Proportion of scholars at schools to the whole population.

Countries.	*One scholar to every person.*	*Countries.*	*One scholar to every person.*
Maine	3.1	Great Britain	8.5
Denmark	4.6	" actually at school.	10.2
United States	4.9	France	10.5
" including slaves	5.6	Austria	13.7
Sweden	5.6	Holland	14.3
Saxony	6.0	Ireland	14.5
Prussia	6.2	Greece	18.0
Norway	7.0	Russia	50.0
Belgium	8.3	Portugal	81.7

The comparisons, in every instance, are to the total population, and therefore will be somewhat affected by the greater or less predominance of persons at the school ages. With all corrections, the results are sufficiently remarkable. Maine has a larger proportion at school than any other State or country; Denmark exceeds the United States, and the United States exceeds all other countries, even if the slaves are not excluded from the calculation. Portugal is lowest in the list, and is followed by Russia. The results cannot be considered as more than a fair approximation, though founded upon official data. They do not take into account the greater or less time which each scholar is at school, or the greater or less amount of proficiency attained.

In the southern States, the number of children educated at home by private tutors, in consequence of the population being scattered, is immensely greater in proportion to the whole, than in other parts of the Union. Such children are therefore not reported in the table of institutions, and would perhaps be omitted in that of scholars by families, since the marshals were only required to ask what member of the family has been at school within the last year: "he is to insert a mark opposite the names of all those, whether male or female, who have been at educational institutions within that period." Again, in the same States, a large number of students are always abroad for education, and are returned with the schools, colleges, &c., of other States. An examination of Massachusetts shows, out of 2,357 "students" mentioned, 711, or one-third nearly, born out of the State, and 152, or one-fifteenth, born in the south. On the other hand, a southern town, taken at random, furnished one out of three editors, four out of twelve teachers, two out of seven clergymen, born in the non-slaveholding States.

The average annual time of attendance at school of each child is much larger in the southern than in the northern States, in consequence of white labor being less required in industrial pursuits. Thus, three children at school for nine months may, for some purposes, be compared with nine children at school for three months, &c. It would require, perhaps, ten times the number of school-houses and teachers in Virginia, to educate the same number of persons as in Massachusetts. "The social intercourse of the south compensates to some extent for its want of schools. The people are taught to think and to converse, and the reunions which are so frequent are the occasions of interchanging opinions, and of diffusing intelligence."

Professor Tucker remarks as follows upon the statistics of education for 1840, at the north and the south:

"These diversities are attributable to several causes, but principally to the difference in density of numbers, and in the proportion of town population. In a thinly peopled country, it is very difficult for a poor man to obtain schooling for his children, either by his own means, or by any means that the State is likely to provide; but where the population is dense, and especially in towns, it is quite practicable to give to every child the rudiments of education, without onerously taxing the community. This is almost literally true in all the New England States and New York, and is said to be the case in the kingdom of Prussia. It is true that, in the northwestern States, and particularly those which are exempt from slaves, the number of their elementary schools is much greater than that of the southern or southwestern States, although their population is not much more dense; but, besides that, the settlers of those States, who were mostly from New England or New York, brought with them a deep sense of the value and importance of the schools for the people, they were better able to provide such schools, in consequence of their making their settlement, as had been done in their parent States, in townships and villages. We thus see that Michigan, which has but a thin population even in the settled parts of the State, has schools for nearly one-seventh of its population. The wise policy pursued, first in New England, and since by the States settled principally by their emigrants, of laying off their territory into townships, and of selling all the lands of a portion before those of other townships are brought into market, has afforded their first settlers the benefit of social intercourse and of co-operation. In this way, they were at once provided with places of worship, and with schools adapted to their circumstances."

Mr. Porter, in his "Progress of Great Britain," remarks upon the deficiency of actual information which often exists among those who are capable of reading and writing:

"The reports of the statistical societies of Manchester and London, have shown how unworthy of the name of education is the result of what is attempted in the majority of schools frequented by children of the working classes, and which are frequently kept by persons whose only qualification for this employment seems to be, their unfitness for every other.

"A lamentable proof of the correctness of this remark, is offered in the following extract from the report for 1839, of the chaplain of the Juvenile Prison at Parkhurst:—One point has forcibly struck my attention, and that is, the comparatively large amount of acquirement in the mechanical elements of instruction, (the art of reading and repetition from memory,) contrasted with the lamentably small degree of actual knowledge possessed, either of moral duty or religious principle.

"This appears mainly to have arisen from the meaning of the words read, or sounds repeated, having rarely been made the subjects of inquiry or reflection. The following digest will in some degree illustrate this position. Your lordship will perceive, that although fifty-eight prisoners can in some degree read, eighty-three repeat some or all of the church catechism, and forty-three possess some knowledge of Holy Scripture, only twenty-nine (exactly half the number of readers) can give even a *little* account of the meaning of words read, or sounds in use; and of these it appears very often to be the strength of the intellect exercised *at the moment*, and not the result of *prior* reflection, that leads them to the meaning of a word.

"Another feature of the moral condition of the Parkhurst prisoners cannot but arrest the attention strongly, and that is, the very large proportion that have received instruction for a considerable period of time in the various schools with which our country abounds. A digest of this portion of the general table will show, that out of 192 lads, 94 have attended schools; 69 of whom have been day scholars for terms longer than a year, eight only having never been at school.

"Read tolerable, 20; read indifferently, 38; read scarcely at all, 14; read not at all, 30; total, 102. Of those there attended school, from eight to twelve years, 2; from five to eight, 5; from three to five, 21; from one to three, 44; under one year, 22; never at school, 8; total, 102."

Alabama—The government of the United States has contributed in lands for schools, about $2,000,000. *Louisiana*—Public expenditure for schools, New Orleans, 1853, $206,000; school funds paid out in the State same year, under general system, $320,000; at school, 1853, $40,000. *Illinois*, 1852—schools, 3,955; scholars taught, 139,255. *Wisconsin*—Education funds of the State, if well administered, estimated at from three to five million dollars. *Ohio*—State common school fund, apportioned among counties, $1,134,000; common schools, 1852, 12,664; scholars, 238,571 males, and 207,426 females; expended, 1851, $686,093 to teachers. *Pennsylvania*, 1852—9,699 schools, 11,713 teachers, scholars 480,778; paid out, including school-houses, $1,116,918. *New Jersey*, 1850—Children taught, 75,245; number of colored children taught, 1,607; received for school purposes, $152,578 62; expended, $99,560 13; 1853, amount appropriated, $325,219; number of teachers, 1,757. *New York*, 1850—794,500 children taught, of whom 9,679 were taught for twelve whole months; unincorporated and private schools, 1,697, and 70,606 pupils; number of colored pupils, 4,971; expended for school purposes, 1851, $2,249,814. *Rhode Island*, 1853—Whole number of scholars, 26,200; average attendance, 18,722; cannot read and write, 2,744. *California*, 1853—3,314 scholars. *Indiana*—State Board reports to legislature, State pays a quota out of fines and licenses, &c. *Iowa*, 1850—914 schools, 799 teachers, academies 14, colleges 4, other schools 44; public scholars, 24,804. *Connecticut*, 1853—1,642 school districts; whole number of children between four and sixteen, 96,382; capital of school fund, $2,049,482; revenue from $143,693; town deposite fund, $763,661; society and local funds, $100,000; income from two last, $31,000; number of scholars, winter, 74,100 under sixteen, 1,780 over sixteen; average attendance, 55,100; private schools, in winter, 403; pupils, 8,100; tuition, $162,000; teachers, winter, 1,060 male, 730 female; summer, 670 male, 1,020 female. *Vermont*, 1850—2,594 districts; public moneys for same, $90,893, exclusive of district taxes; whole expense of schools, $217,402; paid to teachers, $127,671; board, $79,492, fuel, $19,837; average expense scholar, $2 20. *Rhode Island*—Over four, and under fifteen, 1852, 33,959; at school, 26,200; expended, $115,160 21. *New Hampshire*, 1852—Raised for schools, $189,925; average number at school, 55,770 in winter; summer, 44,564; number at school for two weeks, 84,900. *Maine*—2,853 male teachers in 1851, and 4,142 female; attendance in summer, 129,000; winter, 157,000. *Massachusetts*, 1852—Number of public schools, 4,056; persons between five and fifteen, 202,880; scholars in summer, 185,752; in winter, 199,183; average attendance, 136,309; number under five years old at school, 18,260; over fifteen at school, 21,695; teachers in summer, 369 males, and 3,973 females; in winter, 2,085 males, and 2,483 females; total, 4,568; average length of public schools, seven months and fifteen days; average wages male teachers, including board, $37 26 per month; wages of female, including board, $15 36; raised by taxes for the support of schools, including only the wages of teachers, board and fuel, $910,216 04; voluntary contributions of

board, fuel and money, to maintain or prolong public schools, $39,778 87; appropriated to schools, as income of local funds, $37,174 63; received by the towns as their share of the income of the State school fund, $41,558 22; aggregate expended on public schools, for wages, fuel, and superintendence, $1,036,646 32; raised by taxes, (including income of surplus revenue,) for the education of each child in the State between five and fifteen, per child, $4 54; number of incorporated academies returned, 71; average number of scholars, 4,220; aggregate paid for tuition, $82,580 29; number of private schools, 749; estimated average attendance upon private schools, 16,131; estimated amount paid for tuition in private schools, $231,967 28; expended on public and private schools and academies, exclusive of the cost of repairing and erecting school edifices, $1,351,193 89. In addition to this expenditure, the State appropriated, in 1852, to the State reform school, $20,000; education of the blind, $9,000; education of the deaf and dumb, at Hartford, $9,726; education of idiots, $3,750; American Institute of instruction, $300; county teachers' association, $550; agricultural societies, $10,000. *Georgia*—No public schools strictly, but schools receive a certain amount of aid from State funds. This is true for many southern States. *Maryland* has appropriated $600,000 from government distribution fund, as a school fund, yielding, with other means, $65,631 per annum. *Indiana*—Value of school fund, $3,628,215; scholars, 1851, 225,318; schools, 5,899; children in State, 400,000. *North Carolina*—Annual common school fund, $90,000. *Virginia*—School fund, $1,606,802; 32,072 scholars. *Arkansas*, 1850—Though common schools are generally organized, their condition is not flourishing. *Texas*—Primary and common schools are established in the chief towns and counties. *Delaware*, 1853—12,288 scholars; income of school fund, $27,507; contributions and taxes, $17,089; total, $44,596. *Mississippi*, 1850—762 public schools and 189 academies and other schools. *Kentucky*, 1851—School fund, $1,400,270; yields annually $75,00 ; scholars 186,111; average scholars, 74,343; total expended for schools, $111,666; *Missouri*—State and school fund, $575,667; scholars, 160,000. *Tennessee*, 1851—Common school fund, $114,468; academy fund, $18,000. *South Carolina*, 1852—Appropriated for free schools, $36,188 34. *Florida*, 1851—Payment from school fund, $39,000. *Michigan*—The present constitution of Michigan contains this liberal provision, which the State, from her land and other funds, has abundant means of carrying out.

"The legislature shall, within five years after the adoption of this constitution, provide for and establish a system of primary schools, whereby a school shall be kept, without charge for tuition, at least three months in each year, in every school district in the State; and all instruction in said school shall be conducted in the English language. A school shall be maintained in each school district at least three months in each year. Any school district neglecting to maintain such schools, shall be deprived, for the ensuing year, of its proportion of the income of the primary school fund; and all funds arising from taxes for the support of schools."

Boston, 1850—Number of public schools, 220; scholars in summer, 21,723, winter, 21,942; average summer, 17,540, winter, 18,123; number under five years old at school, 1,629; number over fifteen at school, 519; number between five and fifteen in the town, 24,722; average length of schools for the year, 10 months; amount raised by taxes for schools, including wages of teachers, board and fuel, $196,650; school funds, income of which for schools, $8,000; number of academies and private schools, 53; average scholars, 1,549; paid for tuition, $94,800.

New York, 1850—Average length of schools, 11 months; paid teachers, $162,-451; public money received, $230,585; number of volumes in district libraries, 9,240; number of children taught, 64,478, of whom 27,808 attended less than four months, and but 958 the whole twelve months; number of children between five and sixteen, 92,559; average number of pupils, 36,586; number of colored children at school, 2,610.

Philadelphia, 1850-'51—One high school, one normal, 53 grammar, 34 secondary —total schools, 270; scholars, male, 24,508; female, 23,548; total, 48,056. Expended for schools, 1851-'52, $446,199; pupils, 49,635.

Baltimore, 1852.—Three high schools, 21 grammar and 26 primary schools, and 9,081 pupils, of whom in grammar schools and high schools, 5,280. Expended for school purposes, $72,308.

Charleston, 1850—One college and one high school; five public schools, 394 scholars, $3,900 expended; average time of scholars at school, 5 years.

New Orleans, 1852—Thirty-four schools, 8,761 pupils; estimated expenditure 1853, $200,000; receipts, $65,000.

Cincinnati, 1853—Number of pupils remaining in schools, 8,881, of which 15 were over sixteen years old, and none were under six.

The returns for the above cities are taken from official reports. A comparative statement for the several cities was prepared for one of these reports, and is appended, with some omissions supplied, though the figures differ from those already given. This difference is perhaps to be attributed to the statistics being for different years.

Cities.	Population.	Schools.	Teachers.	Pupils.	Cost of tuition.
Boston	135,000	200	331	21,000	*$241,860 00
New York	517,000	199	332	35,164	230,585 74
Philadelphia	409,000	256	727	45,383	336,979 54
Baltimore	169,012	34	119	7,093	45,352 84
Cincinnati	116,000	†17	124	6,006	*81,623 97
St. Louis	81,000	73	168	6,642	.....
New Orleans‡	101,778	34	.....	8,761	200,000 00

Germany—School laws adopted in Wirtemberg, 1559, and modified in 1565, in Saxony in 1560, and improved in 1580, in Hesse in 1565, and in Brandenberg still earlier, substantially established the school system, which prevails at this day throughout Germany. Thus is recognized on the part of government the duty to co-operate with parents in the education of their children, and to provide against their neglect of doing so. This was secured in every State of Germany before the beginning of the present century.

Prussia—The cardinal provisions of the school system are, that all children between the ages of seven and fourteen shall regularly attend school, and that their teachers shall be educated. As a proof of the workings of the system, in 1846, out of 122,897 men in the standing army, only two soldiers were found who could not both read and write. In 1846, there were 24,030 schools; average attendance of scholars, boys 1,235,448, girls 1,197,885, in elementary schools; in higher schools, 43,516 boys, and 48,302 girls; in town schools, 15,624 scholars; in normal schools, 2,186 pupils. Population, 1848, 16,000,000; aggregate schools, primary, 25,332, and 2,540,775 pupils; add 117 gymnasia for classical education, with 29,474 scholars, and 1,664 professors; 7 universities with 4,000 students and 471 professors; 382 infant schools, and 25,000 scholars, besides other special schools. In 1845, there were in the whole of Prussia only two young men in one hundred between the ages of twenty and twenty-two, who could not read, write, and cipher; 34,000 teachers had all been thoroughly educated in the studies they were to teach; 1843, number of children between seven and fourteen, 2,992,124; at school, 2,328,146; 1849, there were 24,201 elementary schools with 30,865 teachers, and 2,453,062 pupils; 890 academies, with 4,187 teachers, and 122,872 pupils; 117 gymnasia or colleges, with 1,664 teachers, and 29,474 pupils; and 7 universities, with 255 professors and 4,306 students. The number of children between six and fourteen years of age, and capable of receiving instruction, was 3,223,362, while the number of those who actually received it, was 2,605,408.

Saxony—Population, 1846, 1,809,023; 1 university, 85 professors, and 835 students, 6 academies in arts and mining, 43 professors, and 1,400 pupils; 11 gymnasia, 131 teachers, 1,590 pupils, 6 higher schools, 18 teachers, and 270 pupils; 3 special, for commerce, &c., 240 pupils, 9 teachers, seminaries, 362 pupils, 17 schools of industry, &c., 779 pupils; 69 others, 6,966 pupils; 24 schools

* Besides the amounts expended for tuition, there were paid for new buildings, in Boston, $56,000; and in Cincinnati, $10,004 08.

† The number of schools in Cincinnati, is taken from the several tabular statements in the report of 1850. From the number of teachers, and amount of money expended, it seems to be too small.

‡ 1853—Whites.

for lace-making, 1,928 pupils; 2,155 common schools, 2,175 teachers, and 278,022 pupils, besides infant and private schools, &c.; 1849, 812 university students, 311,454 elementary scholars.

Baden, 1844—Population, 400,000; 2 universities, 4 lyceums, 6 gymnasiums, 6 pedagogiums, 14 Latin schools, 8 female seminaries, 4 normal schools, 2 trade and military schools, 2,121 common schools.

Wirtemberg—1 university; nine real schools, 6 gymnasia, 5 lycea, 87 Latin schools, 2 religious, 1 polytechnic, 1 agricultural, 7 of art, 2 girl seminaries, 2,332 common schools, 6 teachers' seminaries. At the institute near Stutgard, the course of agricultural education is as follows:—*Barnard.*

1st. *Agriculture*—General principles of farming and horticulture, including the culture of the vine. The breeding of cattle, growing of wool, raising of horses, rearing of silkworms, arrangement and direction of farms, estimation of the value of farms, book-keeping.

2d. *Forestry*—Encyclopedia of forestry, botany of forests, culture and superintendence of forests, guard of forests, hunting, taxation, uses of forests, technology. Laws and regulations, accounts, and technical correspondence relating to forests.

3d. *Accessory Branches.*—Veterinary art, agriculture, technology, especially the manufacture of beet sugar, brewing, vinegar-making, and distilling. The construction of roads and hydraulic works. Besides these special branches, the following general courses are pursued. 1st. *The Natural Sciences.*—Geology, physiology of plants, botany as applied to agriculture and forestry. Natural history of animals, beneficial or noxious to plants and trees. General chemistry, and its applications to agriculture. Physics and meteorology. 2d. *Mathematics.*—Theoretical and practical geometry, elements of trigonometry, arithmetic, elements of algebra.

Bavaria—Population, 4,250,000; 6,065 common schools, with 556,239 pupils, and 150 higher schools, universities, &c., with 99,512 scholars.

Austria, 1838—Population, 23,652,000; children from five to thirteen, 2,886,441; total at school, 2,338,985, of which, boys, 1,314,460, girls, 1,024,525; superior institutions, exclusive of Hungary, 222, with 1,868 professors, and 50,497 scholars, besides academies, &c.; 1849, 12,776 university students, 1,057,146 boys, 830,793 girls; total, 1,887,939 elementary scholars, (exclusive of Hungary;) 1850, 549 colleges, with 72,286 students, 33,340 public schools, 43,381 teachers, and 2,502,874 pupils, and 34,127 academy and other scholars.

Switzerland—Nearly every boy and girl, below the age of seventeen, can read and write.

France, 1843—Whole number of communes, 37,038; number provided with primary schools, 34,578; total number of schools, primary and superior, for boys and girls, 59,838; to which add night and Sunday schools for laborers, at which, in 1843, 95,064 adults were taught. Of the total primary schools, 56,812 are Catholic, 1,080 Protestant, 115 Jewish, 1,831 mixed; total scholars, 1843, 3,164,297, of which 763,820 were gratuitously educated, and 2,400,447, who paid something. Normal schools, 78; professors, 495; secondary pupils in colleges and higher institutions, 69,341.

Belgium—The system embraces primary schools, high schools, intermediate schools, normal, universities, industrial schools; 1850, 1,975 university students, 4,438 gymnasia students, 32,019 scholars in academies and higher schools, 268,186 boys, and 225,587 girls; total, 493,773 in elementary schools.

Holland—382,370 scholars in primary schools, 1,300 in Latin schools, 1,800 in universities; total, 385,470 in 1846, or one in every eight of the population; 1849, 3 universities and 1,037 students, 67 gymnasia, with 1,776 scholars, 1,619 academies, with 40,020 scholars, 2,448 elementary schools, with 166,889 scholars; total scholars, excluding students, 208,685.

Denmark—4,700 primary schools, and 300,000 pupils.

Ireland, 1847—402,632 scholars; 1848, 507,469; 1849, 480,623.

Sweden, 1850—Population, 3,358,867, of which, in various schools and educated at home, between nine and fifteen years of age, 448,205.

Portugal, 1850—1,206 university scholars, 2,840 academy, 38,754 elementary scholars.

Norway—In 1837, one-seventh of the population were being educated in the public schools.

Russia—600,000 scholars educated by the government, and 597,000 estimated as receiving home education; total, 1,200,000

Greece—47,000 pupils at all schools, 1853. In England and Wales, the whole number of day scholars at school has risen from 674,883, or one in seventeen of the population in 1818, to 2,108,473 in 1851, or one in eight and a half of the population. The day scholars having increased 212 per cent., and the population but 57 per cent. There were also, in 1851, 2,407,409 children attending the Sunday schools.

Great Britain, 1851.

Pupils.	Public Day Schools.			Private Day Schools.		
	Males.	Females	Total.	Males.	Females	Total.
On the books	791,548	616,021	1,407,569	347,694	353,210	700,904
Attending school, March 31st, 1851	635,107	480,180	.....	317,388	322,351	639,739
Total, public and private, on books	1,139,242	969,231	2,108,473	.....	.....	.....
Total at school, 31st March, public and private	952,495	802,481	1,754,976	.....	.....	.....

Proportion of scholars on books to total population, 11.76 per cent., or one in eight and a half. Number in attendance to those on books, 83½ per cent.

Estimating for the schools not properly returned, the whole number of day schools will be swelled to 46,114, of which 15,584 were public, and 30,530 were private; number of scholars to 2,144,377, of which 1,417,300 public, and 727,077 private. There were 955,865 scholars by one report in Church of England schools, 34,750 in Roman Catholic, 20,000 in ragged schools, &c.

The statistics for this note are made up from official sources, and in some cases, where these have not been accessible, from other data. In addition, there are in Europe 345 schools of agriculture, with lectures in 16 universities on the same subject.

In the whole of England and Wales, among 367,894 couples married in three years, 122,458 men, and 181,378 women, could neither read nor write. In 1842, 38,031 men, and 56,965 women, out of a total of 118,825 couples, affixed their marks instead of signatures; in 1844, 42,912 men, and 65,073 women, out of a total of 132,249 couples. In 1846, in London, 11.6 per cent. of the men, and 22.6 of the women, affixed their mark. Throughout all England and Wales, 32.6 per cent. of the men, and 48.1 of the women, marrying, affixed their mark. In the French army, in 1851, of 311,218 conscripts, 34 in a hundred could neither read nor write, 3½ could read only, 59½ in a hundred could read and write, 3 in one hundred unknown. It has already been stated, that in the Prussian army of 122,897, only 2 persons could not read and write.

AMERICAN PUBLISHERS.

Some notes upon the names and other particulars of the parties who are engaged in supplying the literary wants of the public, by means of the potent agency of the press, will be of interest and value to our readers. If we can continue the subject in all the large cities it will be done. For New York the material is furnished in some of the numbers of Norton's Literary Gazette.

In 1801 the late MATHEW CAREY, considering the great advantages which had arisen from the celebrated book fairs in Frankfort and Leipsic, formed a plan for an annual fair of the same kind in this country, and issued circulars to all the

booksellers and printers in the United States, inviting them to meet in the city of New York on the 1st of June, 1802, for the purpose of reciprocally buying, selling, and exchanging their respective publications. The project was favorably received; a large number of the persons addressed assembled at the time and place indicated in the circulars; a society was formed, of which the once famous HUGH GAINE, then the oldest bookseller and printer in America, was president, and for four or five years book fairs were held in this city and in Philadelphia. Some evils, however, resulted, or were supposed to result, from the system, and it was abandoned. Twenty-five years after, a son of Matthew Carey, the now eminent political economist, Mr. HENRY C. CAREY, conceived and matured the scheme of trade sales, which have ever since been in successful operation. The principal house engaged in this business is that of BANGS, BROTHER & Co., in Park Place.

The oldest in the city is that of STANFORD & SWORDS, which has so long been been known in Broadway, near Trinity church. The firm was originally composed of T. & J. Swords, sons of a British officer in the old French war. Mr. Thomas Swords was born in Fort George, on Lake George, while it was a royal fortress. Deprived of their father at an early age, the two sons learned the printing business, and, on the close of the revolution, established themselves as printers, booksellers, and publishers, at No. 43 Crown street, where, among their earliest publications, they issued in 1770 the first number of *The New York Magazine, or Literary Repository*. "George Washington, President of the United States," was at the head of the list of subscribers, and the names of the heads of departments and the chief persons connected with the government followed. This magazine was continued twelve years, and sets of it are now so rare as to command a very high price. Althony Bleecker, Dr. Elihu H. Smith, Brockden Brown, William Dunlap, Josiah Ogden Hoffman, James Kent, and several others, wrote in almost every number. Subsequently they issued *The Monthly Magazine and American Review*, *The Medical Repository*, (edited first by Drs. Mitchell and Miller, and the later volumes by Dr. Felix Pascalis,) and half a dozen magazines and reviews, more or less under the direction and patronage of the Episcopal church. The old establishment of Messrs. Swords at No. 160 Pearl street, was for a long time a sort of literary exchange, as the store of Ticknor, Reed & Fields, in Boston, is now. Bishops Seabury and Moore, Dr. Samuel Miller, Dr. Linn, Dr. Abeel, Dr. Bowden, Dr. Stanford, (the estimable father of

the head of the present house,) John Pintard, and nearly all the cotemporary philosophers, artists, and men of letters in town, were in the habit of meeting at "Swords'," which was one of the recognized, characteristic, and most indispensable New York "institutions."

In the department of law, one of the leading publishing houses in this country is that of BANKS, GOULD & Co., No. 144 Nassau street. A capital of probably $1,000,000 is invested in their business; and as they confine themselves exclusively to the publication of legal works, their collection comprises much that is rare and curious, as well as valuable. They import largely from Europe, but their activity is chiefly in the department of English and American law, in which they are not excelled by any house in the world. Theirs is the oldest law publishing firm in the United States.

The late DANIEL APPLETON, founder of the eminent house of Appleton & Co., commenced publishing about twenty years ago in Clinton Hall, and soon after removed for more ample accommodations to No. 200 Broadway, where his business so rapidly increased that in a few years the house became the second in the country for extent of production. From the start it had been honorably distinguished for the good taste and careful morality displayed in its selections for publication. Mr. Daniel Appleton died in 1849, and the booksellers of the Union, in attendance at the trade sale for that year then being held in this city, recognized in a series of appropriate resolutions not only his high character as a merchant, but the good influence he had exerted in the publishing business upon the public character. The firm of Appleton & Co. now consists of four brothers, sons of Daniel Appleton. In the beginning of the present year they removed from No. 200 Broadway to the large edifice erected by the Society Library Company, corner of Broadway and Leonard street, which, with the alterations necessary to adapt it to their business, cost about $150,000. It is beyond all comparison the most splendid bookstore in the world, being as remarkable in its interior architecture and decoration as for convenience and amplitude. The Appletons have invested in their business about $800,000; their sales the present year will amount to not less than $1,000,000. They print largely in foreign languages for exportation, and compete successfully all along this hemisphere with the Parisian and other foreign producers of French and Spanish books. They employ generally about 500 persons. Their edition of *The Spectator*, published last year, was considered the best specimen of American book manufacture for the sea-

son, and they are contemplating a reproduction of the larger portion of the English classics in the same style.

Robert Carter & Brothers, Irving House, Broadway, are justly ranked among the most sagacious, honorable, and wealthy publishers in the United States. Mr. Robert Carter arrived in this city from Scotland, his native country, in the spring of 1831. He was then 23 years of age, and without either capital or friends, with no previous knowlege of the business except such as had resulted from a natural fondness for books, and a diligent and loving study of good authors, he commenced the business of bookseller in the spring of 1834, at a small shop on the corner of Canal and Laurens streets.

C. S. Francis commenced business in New York, opposite John street, in Broadway, in June, 1826. In the spring of 1827 he bought out the bookstore, reading-room, and circulating library, in the building called the Parthenon, No. 252 Broadway, then and for many years after occupied in the upper stories with Peale's Museum. There he has remained ever since.

The great house of Harper & Brothers was established by the senior partners, James and John Harper, who began to print books at their office in Dover street in 1817. Joseph W. Harper became a partner in 1823, and Fletcher, the fourth partner, in 1826. In 1825 they removed to Cliff street. They had already the largest printing house on the continent, and they now entered extensively on the business of publishing. In 1830 they commenced stereotyping, and have since printed generally from stereotype plates. Their business increased with steady and marvellous rapidity, so that last year this house surpassed in the extent of its operations all others, with a single exception, (that of Brockhaus, in Leipsic,) in the world. They occupied with the various departments of stereotyping, printing, binding, and publishing, nine buildings, each five stories high, in Cliff and Pearl streets, and employed six hundred persons, besides the necessarily large number of litterateurs, more or less intimately connected with the house. On the 10th of December, 1853, this immense establishment was entirely destroyed by fire. The members of this firm saw in a few hours nearly half of the great estate they had accumulated in more than a quarter of a century swept away, scarcely leaving a "wreck behind." The works on their trade list at the time of this disaster were more than 1,500, in every department of literature, and drawn from every nation. They might have been classified as follows:

	Works.	Vols.	Original.	Reprints.
History and biography	329	585	158	171
Travel and adventure	130	187	73	57
Theology and religion	120	167	68	52
Educational	156	165	124	32
Art, science, medicine	96	110	46	50
Dictionaries and gazeteers	28	34	23	5
General literature	690	780	230	460
Total	1,549	2,028	722	827

So severe a trial left the energies of the house unimpaired. Their stereotyped plates were nearly all preserved, and a week had hardly elapsed before the best presses from Boston to Cincinnati were in motion to renew their vast stock of books.

John Wiley, No. 167 Broadway, is the son of one of the most eminent New York publishers of the early part of this century, through whom Cooper and a half dozen others of our literary notabilities made their first appearance as authors. Mr. Wiley was for many years at the head of the partnership of Wiley and Putnam, which was dissolved in 1848.

Mr. George P. Putnam is a man of much and well-deserved personal popularity, and his knowledge and taste in literature have made him in an unusual degree a favorite with authors. He is a native of Maine, and we first heard of him in connexion with the book business as the resident London partner of the house of Wiley & Putnam. While in London he published a vindication of this country against various foreign prejudices, ignorance, and misrepresentations, under the title of *American Facts*—a work which evinced an extensive acquaintance with the history, statistics, &c., of the United States, and an intelligent appreciation of our institutions and character. On the dissolution of his connexion with Mr. Wiley he continued the publishing business for some time alone, but in 1853, having removed from Broadway to Park Place, received as a partner Mr. Leslie, and the firm took the style of Geo. P. Putnam & Co. Mr. Putnam has issued from 400 to 450 volumes during the last five years, four-fifths of which at least were original. He has been the publisher of Mr. Cooper, Mr. Irving, Mr. Bryant, Dr. Hawks, Dr. Mayo, Bayard Taylor, J. R. Lowell, Mrs. Kirkland, Mrs. Robinson, Miss Warner, and many other eminent writers. His well know *Monthly* has engrossed much of his attention since its commencement, in January, 1853. In the short period since he became Mr. Irving's publisher, he has paid that distinguished author over $25,000 for copy-rights—having entered into an obligation, which we understand was entirely satisfactory to Mr. Irving, to pay him for this period $8,500.

BAKER & SCRIBNER, Brick Church Chapel, commenced business in February, 1846, and Mr. Charles Scribner succeeded to its entire proprietorship on the death of Mr. Baker, in 1850.

J. S. REDFIELD commenced the business of bookselling and publishing in Clinton Hall, Nassau street, occupying the rooms now used by the Nassau Bank. In 1852 Mr. Redfield removed to his present place of business, Nos 110 and 112 Nassau street, and has since published with great rapidity, and with a tact and judgement vindicated by a uniform success scarcely parallelled in publishing experience.

CHARLES B. NORTON, publisher and agent for libraries, No. 71 Chambers street, has passed his life in bookstores ever since he was ten years of age. He occupies now a peculiar position, and one for which he is well fitted by his extensive knowledge of books and editions, being agent for the principal libraries of the country to purchase their foreign and American books. It was at his suggestion that the recent Convention of Librarians was held in this city. He has published expensive volumes on our *Naval Docks* and *Steamers;* Poole's *Index to Periodical Literature*, and several other works, and is the proprietor and publisher of *Norton's Literary Gazette.*

In addition to these publishing houses there are the following others in New York: E. & G. Blount, nautical publishers; F. & R. Lockwood, foreign works; Wood & Son, medical books; H. Bailliere, foreign works; M. W. Dodd, Presbyterian works; Lewis Colby, E. H. Fletcher; Sadlier & Co., Catholic works; O. A. Roorback, Derby & Miller; Lawport, Blakeman & Son, school books; Clark, Austin & Smith, school books; Mason Brothers, school books; Ivison & Phinney, Leavitt & Allen, Daniel Burgess & Co., A. S. Barnes & Co.; R. B. Collins, school books; C. W. Saxton, agricultural works; Burgess & Stringer, De Witt & Davenport, Evans & Dickerson, A. D. F. Randolph, J. S. Voorhies, John Allen, S. Hueston, J. S. Taylor, Leonard Scott & Co., Cooledge & Brother, W. E. Dean, Pratt, Woodford & Co., J. C. Riker, Fowler & Wells, H. Long & Brother, Bruce & Brother, R. Sears.

OUR DEPARTMENT OF EDUCATION.

NOTE.—Under the Education Department it is proposed to include original articles upon education, with digests of the annual State, city, and foreign reports, which will be carefully collected in the office.

Notices of teachers' associations, and conventions in every part of the republic will be inserted, and also of all new works adapted to the use of schools and colleges, or upon the general subject of education.

We therefore request from all institutions and publishers their works and catalogues, and invite contributions to our pages.

In the next issue will appear the proceedings of the *American Association for the Advancement of Education*, which is to be held at the Smithsonian Institution, Washington, in the course of a few days.

A large number of the distinguished educators of our country, and leading friends of education, are expected to be present, from whom there will be many valuable lectures and educational papers; which will be followed by interesting discussions.

The new law of South Carolina establishing the office of State superintendent of education, carried through by the indomitable exertions of Mr. Tucker, will be noticed in our next.